



*Annual Report*  
**BIOARCTIC**

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2017



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INNOVATIVE  
TREATMENTS

*HELPING PATIENTS  
WITH DISEASES*

IN THE CENTRAL  
NERVOUS SYSTEM



Martina Jones Kostalla, scientist, (left) and Ebba Gregorsson Lundius, senior scientist, (right) in the laboratory. Photo: Jan Torbjörnsson

# BIOARCTIC IN BRIEF

BioArctic creates value by developing treatments in three areas with great unmet medical needs.

BioArctic develops entirely new types of treatments that aim to halt or slow down the disease progression in patients with Alzheimer's disease and Parkinson's disease. Today the patients have access only to symptomatic treatments. The company also develops an innovative treatment concept for complete spinal cord injuries. The goal in all research areas is to develop an efficient treatment that significantly improves the patients' quality of life.

## — Groundbreaking discoveries

BioArctic is a Swedish research-intensive biopharma company founded in 2003 by Professor Lars Lannfelt and Associate Professor Pär Gellerfors to develop new treatments based on important and groundbreaking discoveries made by Professor Lannfelt and his coworkers concerning Alzheimer's disease. These discoveries – the Swedish mutation and the Arctic mutation – have attracted much attention internationally and explain the central role of amyloid beta in Alzheimer's disease, which has led to the development of new treatment strategies.

## — Patented technology

BioArctic has developed a patented technology that has proven successful in the development of the company's first drug candidate, the antibody BAN2401, for Alzheimer's disease. The company's technology is now also used for other diseases of the central nervous system such as Parkinson's disease (BioArctic's antibody BAN0805) and also for related diagnostics.

## — Strategic collaborations

Collaboration with universities is of great importance to BioArctic, and so is collaboration with our strategically important global partners in the Alzheimer projects (Eisai) and the Parkinson projects (AbbVie). The project portfolio is a combination of fully financed projects run in partnership with global pharma companies and innovative in-house projects with great market and outlicensing potential.

## — External validation

Over the years a number of the company's projects have received grant funding from Vinnova and from the EU's research and development program Horizon 2020. One example is BioArctic's product candidate SC0806 for complete spinal cord injury. The grants are of great financial importance for BioArctic and together with the strategic collaborations also constitute an important external quality label.

## — Efficient and flexible organization

Our laboratories and offices are located in central Stockholm, where some 40 persons are working. In order to run an efficient operation with a relatively small organization BioArctic hires key consultants for specific assignments and for tasks in areas of expertise that we lack or only require from time to time.

BioArctic also to a great extent utilizes external companies for pharmacology, toxicology studies, process development and production of drug substances, and for the conduct of clinical trials.

## — High scientific competence

BioArctic has the internal knowledge base required for conducting cutting-edge research in the area of neurodegenerative diseases. In addition the company has extensive collaborations with leading external research groups at Uppsala University, Karolinska Institutet, Karolinska University Hospital, Gothenburg University, Linköping University and Lund University.

Together BioArctic's management team has more than 200 years' experience of drug development, mainly from research organizations in global pharma companies. The company has 19 researchers with a doctoral degree, i.e. approx. 80 percent have a doctor's degree in relevant research areas. They are educated at renowned universities in Sweden, Europe and the US. ►

BioArctic has the primary responsibility for the preclinical development work in the research collaboration with AbbVie in Parkinson's disease. Photo: Jan Torbjörnsson



### OUR STRENGTHS

*BioArctic's success is based on solid scientific competence and highly skilled employees who thrive and deliver high quality. Our strengths include:*

**Highly qualified staff** with a proven ability to develop drugs.

**An innovative project portfolio** including differentiated first generation disease modifying drug candidates for neurodegenerative diseases, related diagnostics and technology, and a new treatment concept for complete spinal cord injuries.

**Strategic collaborations and partnerships** with global pharma companies like Eisai and AbbVie and funding from Vinnova and EU's Horizon 2020 validating the ability of the research organization and the potential of the product candidates.

**An attractive combination** of fully financed partnership projects with significant market potential and innovative proprietary projects with significant outlicensing potential.

**A strong patent portfolio** and an active patent strategy covering all major drug markets, including the US, EU, Japan and China.

### PATENTS\*

**11**

patent families

**112**

granted patents

**51**

patent applications

\* Read more about our patents on page 28.

### VISION: TO BECOME A WORLD LEADER

*BioArctic's vision is to become a world leading Swedish biopharma company within research, development and sales of innovative and effective biological drugs for patients with neurodegenerative diseases, such as Alzheimer's disease and Parkinson's disease, and innovative and effective treatments for complete spinal cord injuries.*

**To achieve this vision** BioArctic focuses on its core business and encourages a strong culture of curiosity among its staff and partners. In addition, BioArctic aims to be an attractive and leading collaboration partner in the company's research areas for research groups in academia, the pharma industry and health care.

### GOAL: TO IMPROVE QUALITY OF LIFE

*BioArctic's goal is to improve the quality of life for patients with diseases in the central nervous system.*

**This goal is the basis** for all operations and helps us achieve our goals. It also establishes the framework for our employees' work, the roles of our teams, partners and others who we collaborate with.

# Major events 2017

## DECEMBER

### BAN2401 in the Phase 2b study continues toward final analysis after 18 months of treatment

Alzheimer's disease: On December 21 BioArctic announced that the Phase 2b study with BAN2401 (study 201) in patients with early stage Alzheimer's disease continues toward final analysis after 18 months of treatment. The efficacy criteria at a 12-month interim analysis of ADCOMS (primary endpoint) were not met. The study will remain blinded per protocol until completion.

*"18 months is considered to be a more appropriate treatment period to demonstrate efficacy of a disease modifying therapy for Alzheimer's disease. We look forward to the results of the completed study after 18 months of treatment."*

Gunilla Osswald, CEO of BioArctic

## OCTOBER

### BAN0805 patent granted in Europe

Parkinson's disease: BioArctic's patent for the drug candidate BAN0805 for Parkinson's disease was granted in Europe.

### Trading in B-shares commenced on Nasdaq Stockholm

The offer of the company's B-shares and listing on Nasdaq Stockholm Mid Cap was announced. The interest was great among institutional investors in Sweden, Europe and the US, as well as among the general public in Sweden. The offer was heavily oversubscribed. The trading started on October 12.

## SEPTEMBER

### Vinnova grant for new technology

BioArctic received an additional grant from Vinnova for developing a commercial and regulatory plan for antibody-based PET investigations of Alzheimer's disease in collaboration with Uppsala University.

### Regulatory Affairs strengthened

Nora Sjödin was hired as responsible for Regulatory Affairs.

## AUGUST

### Patients in the SC0806 study were offered extension study

Complete spinal cord injury: Since August 2017 patients participating in the study and having been treated with SC0806 are offered 12 months further participation in an extension study. The Phase 1/2 study with SC0806 for patients with complete spinal cord injury was started 2016 in specialist clinics in Sweden.

### CFO hired

Jan Mattsson started his employment as CFO in BioArctic on August 1. He had worked as CFO in the company as a consultant since February.

### BioArctic presented a poster and took part in a round table discussion at an international conference

Parkinson's disease: BioArctic participated with presentations at the conference "20 years of alpha-synuclein in Parkinson's disease and related synucleinopathies: from the bedside to the bench and back to the patient", in Greece.

## APRIL

### Increased focus on the quality management system

BioArctic received a grant from Vinnova/Medtech4Health for the work with the company's quality management system. The grant included the GAP-analysis and the upgrading of the company's system for quality management according to ISO 13485 during 2016.

## MARCH

### Vinnova grant for new technology

BioArctic received a grant from Vinnova for a joint research project concerning antibody-based PET investigations of Alzheimer's disease. The research project is run within the Uppsala Berzelii Technology Centre for Neurodiagnostics, where the research group for molecular geriatrics at Uppsala University is collaborating with BioArctic. In the project BioArctic's antibodies have been used together with new technology to increase the uptake in the brain of antibodies across the blood-brain barrier. An up to 100-fold increased concentration of antibodies in the brain has been demonstrated.

### BioArctic presented two posters at an international conference on Alzheimer's and Parkinson's disease

BioArctic presented preclinical data at the conference "International Conference on Alzheimer's and Parkinson's Diseases" in Austria focused on mechanisms, clinical strategies and promising treatments of neurodegenerative diseases.

## FEBRUARY

### Patent for BAN2401 back-up granted in the USA

Alzheimer's disease: The US Patent and Trademark Office has granted BioArctic a patent for the drug candidate BAN2401 back-up (an antibody) for Alzheimer's disease.

CEO GUNILLA OSSWALD



2017 – A SUCCESSFUL  
LISTING AND YET  
ANOTHER THRIVING  
YEAR FOR BIOARCTIC



*Looking back at* the past year, I am proud that so much has happened in such a short time. In 2017 BioArctic took a major strategic step and carried out a successful listing on the stock exchange – the biggest IPO in biotech in Sweden since 2000. We continued to progress the company’s projects in three treatment areas, all with great unmet medical needs, well in line with our objectives.

*In connection with* the preparations for the listing on Nasdaq Stockholm, we have reviewed the company’s goals and strategies and ensured that we have the competences and resources required for the work ahead. This in order for BioArctic to be able to make full use of the opportunities and handle the challenges that we will meet in the future. Today BioArctic is well prepared to run our in-house projects as well as the partnership projects with Eisai concerning Alzheimer’s disease and with AbbVie concerning Parkinson’s disease. The collaborative projects with health care providers and academic research groups are also important. The overall goal is to ensure a continued good development of BioArctic’s project portfolio and create value for the shareholders.

*Among BioArctic’s five* projects for treatment of patients with early stage Alzheimer’s disease BAN2401, run in collaboration with Eisai, is the most advanced. On December 21 BioArctic announced that the Phase 2b study of BAN2401 in 856 patients with early stage Alzheimer’s disease continues toward final analysis after 18 months treatment. The antibody BAN2401

did not meet the ADCOMS efficacy criteria (primary endpoint) at a 12 month interim analysis based on an innovative Bayesian design with high demands for meeting the efficacy criteria. The study will continue according to the predetermined study protocol and remain blinded. 18 months treatment is considered to be a more relevant treatment period in order to demonstrate clinical effect of a disease modifying drug for Alzheimer’s disease. We look forward to the results of the completed study after 18 months treatment which are expected to be available in the second half of 2018.

***“Today BioArctic is well prepared to run our in-house projects as well as the partnership projects with Eisai and AbbVie.”***

*The research collaboration* with AbbVie in the area of Parkinson’s disease is very inspiring and intensive work is in progress. This has meant that BioArctic has got more employees, increased resources and the possibility to run the project BAN0805 considerably faster towards future clinical studies.

*The company’s treatment* for complete spinal cord injuries, SC0806, is undergoing a clinical trial in Phase 1/2 at specialist clinics in Sweden. The study is run by BioArctic. During the year work has been in progress to include clinics in Estonia, Finland and Norway in the study. This resulted in regulatory approval in Estonia and Norway, in the first quarter of 2018, for including patients in the ongoing study.

*We now take* on 2018 with great enthusiasm and look forward to the activities ahead. In conclusion I would like to thank all investors for their confidence and all partners and employees at BioArctic who have contributed to a successful 2017.



**Gunilla Osswald**  
CEO BioArctic AB

# OUR STRATEGY FOR GROWTH

Our goal is to improve the quality of life for patients with diseases in the central nervous system. During the year BioArctic's strategy was clarified in order to enable us to make full use of our opportunities and to manage challenges in front of us. Today BioArctic is well positioned for new successful collaborations and continued growth.

BioArctic's goal is to develop innovative disease modifying treatments based on antibodies (immunotherapy) for neurodegenerative diseases, i.e. diseases where the nervous system atrophies.

We develop entirely new types of treatments that hopefully may halt or delay the disease progression in patients with Alzheimer's disease and Parkinson's disease, unlike today's symptomatic treatments. The company is also developing a new treatment concept for complete spinal cord injuries.

## — Our strategic target areas

BioArctic focuses on building a unique and competitive portfolio of product candidates, diagnostics and technology in the company's indication areas. This is done partly through internal research and development, partly through research collaborations with strategic partners in the form of research groups at universities, in pharma companies, and in the health care sector.

*Our strategy is to outlicense certain commercial rights to global pharma companies at an appropriate time.*

In line with this strategy BioArctic's research and development work continues. Important elements of BioArctic's strategy are:

- Further develop and expand the company's portfolio of innovative product candidates in attractive indication areas with great medical needs



- Accelerate the development of diagnostic methods and technologies related to the drug development
- Evaluate opportunities for further strategic collaborations and partnerships for the development and commercialization of product candidates
- Promote an attractive environment for research and development and for our employees
- Build a sales organization in selected markets for own marketing and sales of approved products

## — Collaborations and partnerships

Collaboration and license agreements with leading pharma and biopharma companies are important parts of BioArctic's strategy. In addition to financial compensation we get access to our partners' skills in drug development, manufacturing and commercialization. BioArctic has entered into a number of such agreements with the Japanese global pharma company Eisai and the American international biopharma company AbbVie. These strategic partnerships with leading global companies confirm that BioArctic's research is of very high quality.

In the future BioArctic may enter into additional agreements that can contribute further funding and research and development competence for product candidates in preclinical and clinical phase, manufacturing and marketing competence, geographic coverage and other resources.



## Collaboration partners

EISAI		
<p><b>About the collaboration</b></p> <p>Since 2005 BioArctic has a long-term collaboration with the Japanese international pharma company Eisai concerning the development and commercialization of drugs for the treatment of Alzheimer's disease.</p>	<p><b>Agreements</b></p> <ul style="list-style-type: none"> <li>• The development and commercialization agreement concerning the antibody BAN2401 – signed 2007</li> <li>• The development and commercialization agreement concerning the antibody BAN2401 back-up – signed 2015</li> </ul>	
<p><b>Value of the agreements</b></p> <p>The total value of the agreements may amount up to MEUR 218 and in addition there are payments of royalty. So far approx. MEUR 47 has been received.</p>		
<p><b>Founded:</b> 1941</p>	<p><b>Head office:</b> Tokyo, Japan</p>	
<p><b>CEO:</b> Haruo Naito</p>		
<p><b>Number of employees:</b> &gt; 10,000</p>	<p><b>Website:</b> Eisai.com</p>	

### Eisai

Since 2005 BioArctic has a long-term collaboration with Eisai in the Alzheimer area. Within the framework of the collaboration BioArctic and Eisai have entered into a number of agreements, the development and commercialization agreement concerning the antibody BAN2401 signed in 2007 and a similar agreement concerning BAN2401 back-up, signed in 2015, among others. Since 2014 Eisai has a collaboration with Biogen concerning BAN2401 in Alzheimer's disease.

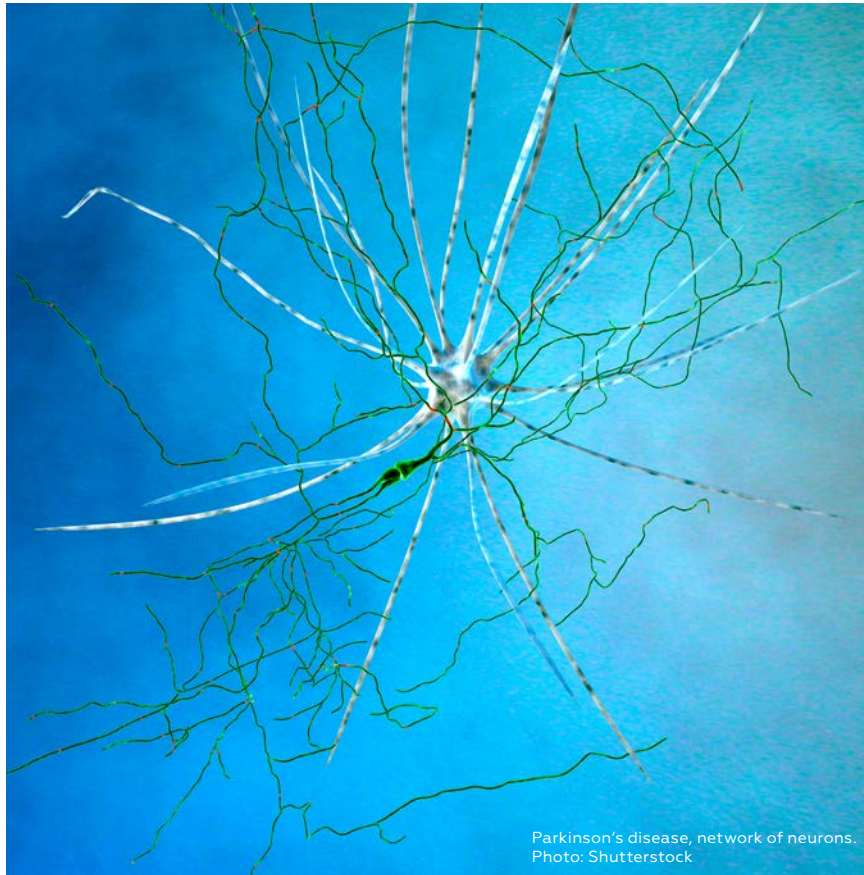
BioArctic has granted Eisai a global and exclusive license for research, development and commercialization of drugs using the antibodies for the treatment of Alzheimer's disease. Eisai is responsible for the clinical development, applications for marketing authorization and commercialization of the products. BioArctic retains the right to market the licensed products in the Nordic countries and the rights to the antibodies for treatment of other indications than Alzheimer's disease.

ABBVIE		
<p><b>About the collaboration</b></p> <p>In September 2016 BioArctic and AbbVie entered into a strategically important partnership to develop and commercialize BioArctic's portfolio of antibodies including BAN0805 targeting alpha-synuclein for treatment and diagnostics of Parkinson's disease and other potential indications.</p>	<p><b>Agreements</b></p> <ul style="list-style-type: none"> <li>• A research agreement and an exclusive option on license for further development and commercialization of products containing BioArctic's antibody BAN0805 and other antibodies that are discovered or developed within the framework of the research collaboration – signed 2016</li> </ul>	
<p><b>Value of the agreement</b></p> <p>The total value of the agreement may amount up to MUSD 755 and in addition there are payments of royalty. So far MUSD 80 has been received.</p>		
<p><b>Founded:</b> 2013</p>	<p><b>Head office:</b> North Chicago, Illinois, USA</p>	
<p><b>CEO:</b> Richard A. Gonzales</p>		
<p><b>Number of employees:</b> 30,000</p>	<p><b>Website:</b> Abbvie.com</p>	

### AbbVie

In September 2016 BioArctic and AbbVie entered into a collaboration and license agreement concerning the development and commercialization of BioArctic's antibodies alpha-synuclein for the treatment of Parkinson's disease and other potential indications and related diagnostics.

BioArctic has entered into an agreement with AbbVie including a research collaboration and an exclusive option on a license for further development and commercialization of products containing BioArctic's antibody BAN0805 and other antibodies discovered or developed within the framework of the research collaboration. BioArctic has the primary responsibility for the preclinical development work.



Parkinson's disease, network of neurons.  
Photo: Shutterstock

# STRIVE FOR INNOVATION

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Our ambition is to develop new innovative treatment strategies that help people with diseases in the central nervous system. This is our most important role and our way to create value for patients and society.

# Technology

## — Alzheimer's disease

The amyloid beta peptide ( $A\beta$ ) is the main constituent in the plaques found in the brains of Alzheimer patients. Genetic findings strongly point to  $A\beta$  as the disease-initiating molecule.  $A\beta$  accumulates both as insoluble aggregates (fibrils and amyloid plaques) and in soluble forms (oligomers and protofibrils). Research has shown that the amount of amyloid plaques in the brain does not correlate with the severity of dementia. Instead, the soluble aggregated forms of  $A\beta$ , oligomers and protofibrils, are considered to be the main toxic forms.

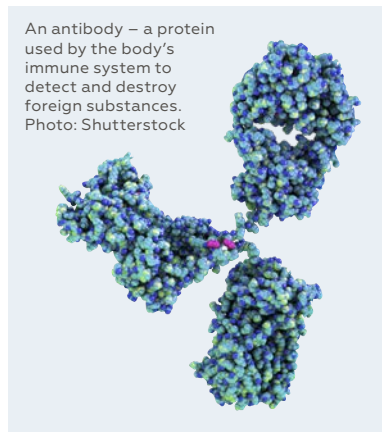
BioArctic's treatment strategy is aimed at reducing the amount of these toxic proteins by means of antibodies specifically targeting them. Such  $A\beta$  immunotherapy has attracted much attention as one of the most promising treatment options in Alzheimer's disease. BioArctic's monoclonal antibody BAN2401 aims to halt or slow down the progression of the disease and the negative cognitive development in Alzheimer patients by selectively targeting and eliminating oligomers/protofibrils of  $A\beta$ . BAN2401 is highly selective for  $A\beta$  oligomers/protofibrils and binds 100 times stronger to  $A\beta$  oligomers/protofibrils than to  $A\beta$  monomers and 10 to 15 times stronger than to  $A\beta$  fibrils. A clinical Phase 2b study with BAN2401 with 856 patients with early stage Alzheimer's disease is in progress.

## — Parkinson's disease

Patients with Parkinson's disease suffer from extensive loss of nerve cells in certain areas of the brain. In the nerve cells there are so-called Lewy bodies consisting of  $\alpha$ -synuclein (alpha-synuclein), a protein that regulates neurotransmitter release.  $\alpha$ -synuclein can also be released from the cells and transfer to nearby cells, whereby the disease can spread from one brain area to another. Research has shown that mutations in the  $\alpha$ -synuclein gene lead to Parkinson's disease. Some of these mutations promote the formation of large soluble aggregates of oligomers or protofibrils, which continue to aggregate to Lewy bodies. Whereas the insoluble  $\alpha$ -synuclein aggregates do

not seem to confer cellular damage, numerous studies have demonstrated that soluble oligomers/protofibrils have pronounced neurotoxic effects. Targeting oligomers and protofibrils of  $\alpha$ -synuclein should thus be a possible strategy for early treatment of Parkinson's disease.

BioArctic's drug candidate BAN0805 is a monoclonal antibody that selectively targets oligomers/protofibrils of  $\alpha$ -synuclein. BAN0805 binds only weakly to the monomeric forms of the protein, allowing selective targeting of brain oligomers/protofibrils. In preclinical studies BAN0805 has been shown to decrease the levels of  $\alpha$ -synuclein protofibrils, decrease motor symptoms and double the life span of transgenic Parkinson mice.



## — Complete spinal cord injuries

SC0806 is BioArctic's product candidate for complete spinal cord injury. SC0806 is a degradable implant with channels for nerve grafts from peripheral nerves and the growth factor FGF1. The product is a combination of a medical device (the implant) and a drug (FGF1). The implant provides a sustained release of FGF1. The channels in the implant are designed to guide axon growth from white to grey matter in the spinal cord, which is a precondition for nerve regeneration. The treatment is based on a surgical procedure where the scar tissue in the injured part of the spinal cord is removed and replaced with SC0806 including nerve grafts from the patient's legs (the sural nerve). The growth factor FGF1 has two functions, to stimulate the growth of axons and also to inhibit gliosis (formation of scar tissue). The nerve grafts that are inserted into the channels of the implant have the function to create an environment that stimulates regeneration of axons and to create contact. The surgery is followed by 18 months of rehabilitation through intensive training in a robotic system to support muscle rebuilding in the part of the body affected by paralysis. In preclinical studies BioArctic has demonstrated nerve regeneration, transfer of electrical impulses and return of motor function in animals after treatment with SC0806. A clinical Phase 1/2 study of SC0806 is in progress. ▶

## Project portfolio

BioArctic develops disease modifying treatments for neurodegenerative diseases like Alzheimer's disease and Parkinson's disease, diagnostic methods for neurodegenerative diseases and related technology, and a treatment concept for complete spinal cord injuries.

### — Alzheimer's disease

Among BioArctic's five projects for treatment of patients with early stage Alzheimer's disease BAN2401 is the one that has advanced furthest.

BioArctic's drug candidate BAN2401 aims to halt or slow down the continuous cognitive decline in Alzheimer patients. BAN2401 is a monoclonal antibody that selectively binds and eliminates oligomers/protofibrils of A $\beta$ , which are considered to be the toxic forms in Alzheimer's disease. The Japanese pharma company Eisai has obtained the global rights to develop, manufacture and market BAN2401 for the treatment of Alzheimer's disease. Eisai is responsible for the clinical development of BAN2401, which is currently being studied in a Phase 2b study with 856 early stage Alzheimer patients in the US, Canada, EU, Japan and South Korea. The results from the final analysis of the entire BAN2401 Phase 2b study (18 months data) are expected to be available during the second half of 2018.

BioArctic has also developed a new antibody, BAN2401 back-up, and entered into a license agreement with Eisai concerning the new antibody. BioArctic retains the right to market BAN2401 and BAN2401 back-up for the treatment of Alzheimer's disease in the Nordic countries.

A $\beta$  plaques can also be found in patients with other types of dementia, such as dementia in patients with Down's syndrome and dementia in patients with traumatic brain injuries. BioArctic considers such indications to be interesting indications to treat with BAN2401 or BAN2401 back-up, which may offer attractive business opportunities in the future. BioArctic holds the rights to BAN2401 and BAN2401 back-up for the treatment of other indications than Alzheimer's disease, including dementia indications with neurodegeneration not caused by Alzheimer's disease (AD-related diseases).

A third collaboration with Eisai concerns a new target for disease modifying treatment of Alzheimer's disease. The collaboration project AE1501 is in research phase.

BioArctic also runs two disease modifying Alzheimer projects in-house, AD1502 and AD1503 with other innovative targets. Both projects are in research phase.

### — Parkinson's disease

BioArctic's drug candidate BAN0805 is a monoclonal antibody

that selectively binds and eliminates oligomers and protofibrils of  $\alpha$ -synuclein and aims to halt or slow down the disease progression in patients with Parkinson's disease. The treatment concept is based on innovative research at Uppsala University in collaboration with BioArctic. A strategic collaboration has been entered into with the global biopharma company AbbVie concerning the continued development of BioArctic's Parkinson projects.

### — Biomarkers, diagnostics and technology

Alzheimer's and Parkinson's diseases are currently diagnosed through clinical investigations, biochemical markers in spinal fluid and brain imaging. There is a lack of biomarkers that mirror disease progression and treatment effect.

BioArctic develops biochemical methods within the Alzheimer field in collaboration with Gothenburg University and PET ligands selectively targeting A $\beta$  oligomers/protofibrils in collaboration with Uppsala University. Within the Parkinson field the development of diagnostic methods is part of the collaboration with AbbVie.

### — Technology for increased passage across the blood-brain barrier

The blood-brain barrier is a membrane that controls the exchange of substances between the blood and the brain. The barrier protects the brain from toxins and pathogens, but it also makes it difficult to deliver therapeutic agents to the brain. In collaboration with Uppsala University BioArctic develops a technology that facilitates the passage of antibodies across the blood-brain barrier. The project is in research phase.

### — Treatment of complete spinal cord injuries

SC0806 is BioArctic's treatment concept for patients with complete spinal cord injuries. The project is in-licensed from Swenora Biotech AB and is based on research at Karolinska Institutet and Karolinska University Hospital. SC0806 is a biologically degradable implant with channels for nerve grafts and the growth factor FGF1. BioArctic's treatment for complete spinal cord injuries (SC0806) has received orphan drug designation in the EU/EES as well as in the US.

BioArctic is currently conducting a clinical Phase 1/2 study with SC0806. The surgeries are performed at Karolinska University Hospital and the rehabilitation at specialist clinics in Sweden, and with upcoming expansion of the program, in Estonia, Finland and Norway. In the first quarter of 2018, BioArctic obtained regulatory approval in Estonia and Norway for including patients in the study.

	PRODUCT CANDIDATE	INDICATION	PARTNER	DISCOVERY	PRE-CLINICAL	PHASE 1	PHASE 2	PHASE 3
Neurodegenerative diseases	<b>BAN2401:</b> anti-A $\beta$ antibody	Alzheimer's Disease	Eisai, Biogen <sup>1</sup>					
	<b>BAN2401:</b> anti-A $\beta$ antibody	Downs syndrome <sup>2</sup> Traumatic Brain Injury	—					
	<b>BAN2401 BACK-UP:</b> anti-A $\beta$ antibody	Alzheimer's Disease	Eisai					
	<b>AE1501:</b> undisclosed information	Alzheimer's Disease	Eisai					
	<b>AD1502:</b> undisclosed information	Alzheimer's Disease	—					
	<b>AD1503:</b> undisclosed information	Alzheimer's Disease	—					
	<b>BAN0805:</b> anti- $\alpha$ -synuclein antibody	Parkinson's Disease	AbbVie					
Diagnostics & technology	<b>IMAGING AND BIOCHEMICAL BIOMARKERS:</b> A $\beta$	Alzheimer's Disease	—					
	<b>IMAGING AND BIOCHEMICAL BIOMARKERS:</b> $\alpha$ -synuclein	Parkinson's Disease	AbbVie					
	<b>BBB-TECHNOLOGY:</b> blood-brain barrier	Multiple application areas	—					
Spine	<b>SC0806:</b> FGF1/medical device	Complete Spinal Cord Injury	—					

1) Partner with Eisai on BAN2401 for treatment of Alzheimer's disease. Eisai in partnership with Biogen concerning BAN2401 since 2014.

2) Dementia and cognitive impairment associated with Down's syndrome.

# AREAS WITH GREAT UNMET MEDICAL NEEDS

BioArctic develops new innovative treatments based on antibodies (a form of immunotherapy) for neurodegenerative diseases such as Alzheimer's disease and Parkinson's disease. The company also develops an innovative treatment for complete spinal cord injuries.

## Neurodegenerative diseases

Neurodegenerative diseases affect the lives of millions of people and constitute a growing health challenge for societies with rapidly rising costs. Neurodegenerative diseases are conditions in which cells in the brain degenerate and die. These cells do not regenerate, so damage to the nervous system leads to dementia. Normally the neurodegenerative processes begin long before any symptoms appear. Today there are no cures or effective treatments that can halt or change the progression of the diseases. The currently available treatments can only influence the symptoms short term.

In recent years the knowledge of neurodegenerative diseases has developed and led to an understanding of the underlying mechanisms. The key

factors are today believed to be protein misfolding and spreading of toxic soluble protein aggregates that lead to neuronal dysfunction, cell death, brain damage and disease symptoms. BioArctic's treatment strategy is to reduce or eliminate these toxic proteins. In this way the disease can be halted or given a slower progression.

Common to all these therapy areas is that there are great medical needs that are currently not met by the treatments on the market. For Alzheimer's disease and Parkinson's disease there are several symptomatic treatments, i.e. drugs that alleviate the symptoms of the disease, but no disease modifying treatments that can halt or delay the disease progression. There is no effective treatment for complete spinal cord injuries.





Alzheimer's disease often impairs quality of life for the patients as well as their families.  
Photo: Esther Wiegardt

## Alzheimer's disease

Alzheimer's disease is estimated to be the cause of approximately 50-60 percent of all cases of dementia<sup>1</sup>, and is thus the most common dementia condition with onset in adulthood. The disease is characterized by death of neurons in the brain causing a progressive deterioration of memory and cognitive skills, such as intellectual ability, language, recognition and learning ability. The disease can also lead to personality changes and psychiatric symptoms such as apathy, depression, disorientation, paranoia and aggressiveness, and motor symptoms such as stiffness, akinesia and

impaired responsiveness. A patient with far advanced Alzheimer's disease often require extensive nursing, as the disease affects the patient's ability to care for oneself and handle everyday situations. The disease thus impairs the quality of life for the patients as well as for their families. The great demand for nursing also means great costs for society.<sup>2</sup>

The manifesting disease can be divided into different stages: mild, moderate and severe Alzheimer's disease. Patients with mild Alzheimer's disease can experience memory problems, confusion, personality changes and depres-

sion. The moderate form of Alzheimer's disease is characterized by aphasia, impaired judgement and increased memory loss. In severe Alzheimer's disease the patient often exhibits serious cognitive and motor symptoms.

Alzheimer's disease and other dementia conditions are preceded by an early phase (prodromal) where the patient exhibits mild impairments of memory and other cognitive skills. It is at these stages and in mild Alzheimer's disease, before the deterioration of the brain has progressed too far, that a disease modifying treatment is expected to have the best effect. ►

1) Boken om Demenssjukdomar, Liber Förlag 2013 pp 12-13; Läkemedelsboken 2014 p 1088.  
2) World Alzheimer Report – Alzheimer's Disease International, 2015.



Patients with Parkinson's disease may suffer from dementia, depression, hallucinations and sleeping difficulties.  
Photo: Mark Alexandrovich

## Parkinson's disease

Parkinson's disease is a progressive disease of the nervous system that affects the ability to move due to reduced levels of dopamine in the brain. Tremor is the best known sign of the disease. The disease develops gradually and can start with hardly noticeable tremor in one hand or symptoms related to disturbances in the REM sleep, smell and bowel function. The disease often also leads to stiffness and slow movements. Patients with Parkinson's disease may also suffer from non-motor symptoms such as dementia, depression, hallucinations and sleeping difficulties. As the disease af-

fects mobility and body control it often leads to difficulties handling everyday situations.

As the second most common neurodegenerative disease, after Alzheimer's disease, Parkinson's disease affects a large number of individuals and their families. Compared to Alzheimer's disease, Parkinson's disease affects a younger patient group, which means that many who fall ill are still at working age, with considerable financial consequences for the individual and society. There is currently no disease modifying treatment for Parkinson's disease that

can halt or delay the disease progression. This means that the condition of the patients with Parkinson's disease will gradually deteriorate and that the disease will eventually limit the patients' possibilities to work and live a normal and independent life.

## Dementia in other conditions

Other types of dementia, such as dementia and cognitive impairment in patients with Down's syndrome and dementia in persons suffering from traumatic brain injuries, are potential future indications for the drug candidates that BioArctic is currently developing for Alzheimer's disease. Individuals with Down's syndrome represent the largest group of people with dementia under the age of 50. Some 6 million persons globally are estimated to have Down's syndrome.<sup>1</sup>

BioArctic also evaluates drug candidates for the treatment of dementia in other conditions.



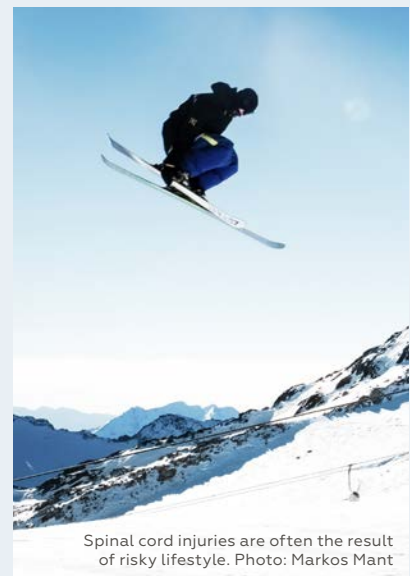
*“Slowing down the disease progression in neurodegenerative diseases would mean great advantages for patients, their families and the health care system.”*

## Spinal cord injuries

Spinal cord injuries are usually caused by traumatic events resulting in partial or complete paralysis. The extent of paralysis depends on where the damage occurs; in the neck, thoracic spine or lumbar spine. A complete spinal cord injury is defined as an injury where the patient can accomplish no voluntary movement or sensory feedback below the injury. A spinal cord injury causes degeneration of the nerve fibers below the site of the injury as nerve cells do not regenerate. Besides paralysis patients with complete spinal cord injury suffer from other serious symptoms, including neuropathic pain, bowel and bladder incontinence, sensory loss, pressure sores, infertility and sexual dysfunction. Increasing stability, restoring bowel and bladder control,

reducing pain or enabling sexual functionality would constitute a major improvement of the patient's quality of life.

Complete spinal cord injuries are more common among younger persons and most common in males, among other things as a result of a more active and risky lifestyle and working environment. Patients with complete spinal cord injuries require life-long therapy and care, which means high costs for the health care system. A treatment that could reduce the paralysis or improve some functions would be a significant step forward, not only for the patients and their families, but also for society from a cost perspective. Currently no effective treatments are available for complete chronic spinal cord injuries.

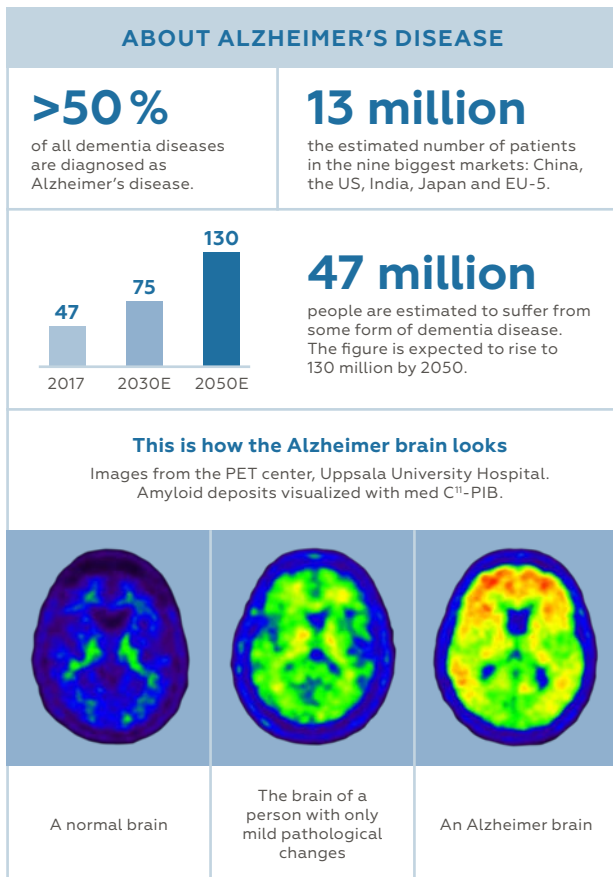


Spinal cord injuries are often the result of risky lifestyle. Photo: Markos Mant

1) Ballard et al., Lancet Neurol 2016;15:622.

# AN INCREASING NEED FOR BETTER TREATMENTS

Common to all BioArctic’s therapy areas is the fact that there currently are great medical needs that cannot be met by the treatments available on the market. There is also a great need for better and more specific diagnostic methods enabling correct diagnosis at an early stage and thereby earlier treatment, and for monitoring the treatment effect.



## — Alzheimer’s disease

The demographic development with an aging population and increasing life expectancy has led to a dramatic increase in the incidence of diseases that affect the elderly, such as various forms of dementia. Some 47 million people worldwide suffer from some form of dementia and the global costs for dementia care in 2010 was estimated to approximately USD 820 billion.<sup>1</sup> The costs are in part attributable to drugs and medical care related to dementia diseases as such, but the majority of the costs are indirect costs for assisted living and similar.

*In 2030 approximately 75 million people are expected to suffer from some form of dementia disease and the care costs for these persons are expected to rise to about USD 2,000 billion.<sup>2</sup>*

If no effective disease modifying treatments that can halt or delay the disease progression are developed and made available to the patients the estimated number of persons with dementia diseases is expected to reach more than 130 million by 2050.<sup>3</sup>

Alzheimer’s disease accounts for approximately 50–60 percent of all diagnosed dementia cases. It is estimated that approximately 25 million people worldwide suffer from Alzheimer’s disease today and the number is expected to double in 20 years. According to data compiled by GlobalData<sup>4</sup> some 13 million patients suffer from Alzheimer’s disease in the nine biggest markets for the disease – China, the US, India, Japan and EU-5 (France, Germany, Italy, Spain and the UK).

1) 2) 3) World Alzheimer Report – Alzheimer’s Disease International, 2015.

4) The information from GlobalData is derived from GlobalData’s market report concerning Alzheimer’s disease.

The treatments for Alzheimer's disease currently on the market are used to alleviate the symptoms, but they cannot halt or slow down the disease progression. Future disease modifying treatments will be used earlier in the course of the disease, and also be given in combination with drugs used today. The future drugs will therefore not compete directly with the existing symptomatic treatments.

Other types of dementia, such as dementia and cognitive impairment in patients with Down's syndrome and dementia in persons who have suffered from traumatic brain injuries, are potential future indications for the drug candidates that BioArctic is developing for Alzheimer's disease. Persons with Down's syndrome constitute the largest group of people under the age of 50 with dementia. Approximately 6 million persons worldwide are estimated to have Down's syndrome.

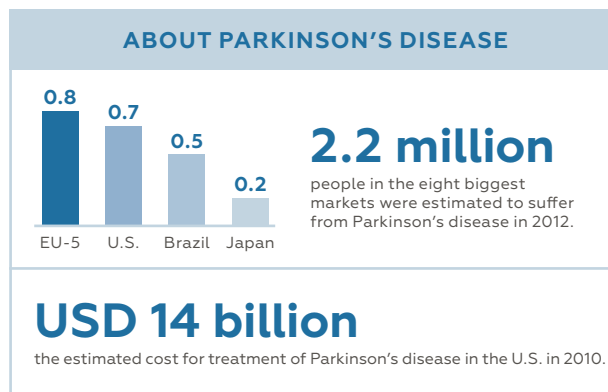
#### — Parkinson's disease

Parkinson's disease is the second most common neurodegenerative disease. Compared to Alzheimer's disease it affects a younger patient group, which means that many who fall ill are still at working age, with considerable financial consequences for the individual and society.

From 1990 to 2015 the prevalence of Parkinson's disease has doubled. In 2015 it was estimated that 6.2 million people suffered from Parkinson's disease worldwide.<sup>1</sup> This number is expected to increase to 12.9 million by 2040. In 2012 2.2 million people suffered from Parkinson's disease in the eight biggest markets for the disease – the US, Brazil, Japan and EU-5. The US has the highest prevalence (0.7 million) followed by Brazil (0.5 million). In EU-5 the number is estimated to 0.8 million.<sup>2</sup>

There are currently no estimates of the global public costs for Parkinson's disease. An estimate regarding the US alone calculated the direct and indirect costs linked to treatment of Parkinson's disease in 2010 to USD 14 billion, a figure expected to double to USD 28 billion by 2040.<sup>3</sup> Direct costs associated with Parkinson's disease include patient care, medication and care costs. Indirect costs associated with Parkinson's disease include the burden on the care giver and the patient's lost productivity.

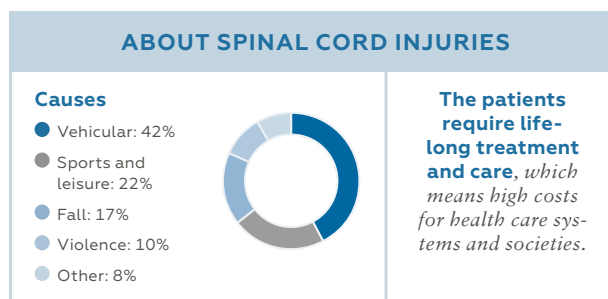
The treatments for Parkinson's disease that are currently on the market are focused on relieving the motor symptoms and they have good effect the first years, but these drugs cannot stop or slow down the progression of the disease. There is currently no disease modifying treatment for Parkinson's disease. As is the case for Alzheimer's disease, there is extensive research in progress aimed at identifying earlier stages of the disease where disease modifying treatments can be initiated when such treatments become available.



#### — Spinal cord injuries

A spinal cord injury occurs when a trauma or a disease damages the spinal cord and results in partial or total paralysis. The annual incidence of spinal cord injuries worldwide has been estimated to 22 cases per million people. The number of patients with spinal cord injuries varies between 12.7 and 44.3 per million inhabitants depending on country.<sup>4</sup> Some 40 percent of these patients are estimated to have complete spinal cord injuries<sup>5</sup>, some 2.5 million live with paralysis. Complete spinal cord injuries are more common among younger persons, primarily men injured in accidents.

Repairing a permanently injured spinal cord has constituted an enormous challenge. The acute treatment of spinal cord injuries has improved during the last decades, but there is still no effective treatment for complete spinal cord injuries. The poor prognosis in combination with the lack of effective treatments to restore functions has caused society to focus on offering basic and essential long-term care services. The patients require life-long treatment and care, which means high costs for health care systems and societies. The life time cost for a patient is estimated to approximately USD 3 million.<sup>6</sup>



1) Dorsey&Bloem, JAMA Neurology 2018;75:9. 2) The information from GlobalData is derived from GlobalData's market report concerning Parkinson's disease. 3) Kowal et al 2013. 4) Datamonitor Stakeholder Opinions; Spinal Cord Injury, 2010. 5) NSCISC Annual Statistics Report, 2010. 6) Krueger et al., 2013.

An analysis in the cell room is being performed by senior scientist Ronny Falk.  
Photo: Jan Torbjörnsson



# WE ENCOURAGE CURIOSITY AND INNOVATION

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In order to achieve BioArctic's vision we focus on our core operations and encourage a strong culture of curiosity and innovation.

## Our core values

SCIENCE DRIVEN	RESPECT	COMMITMENT	TEAMWORK	RESPONSIBILITY
<i>We are driven by our desire to understand the diseases in order to be able to develop new treatment strategies</i>	<i>We act respectfully</i>	<i>We are highly engaged in everything we do</i>	<i>We collaborate to achieve our common goals</i>	<i>We deliver high quality science</i>

Our employees and partners represent diversity and create a working place with an international and dynamic environment. We wish that our coworkers reach their full potential and the individual's development plan is therefore based on the company's and the individual's goals. We encourage continued development by offering employees new roles and tasks in the projects.

### — Employeeship is characterized by our core values

We want everyone to live our core values, which means that all take responsibility and assume ownership for their tasks, including a responsibility for the positive development of the entire company and for achieving its vision. In order to succeed we collaborate across project and function borders and we feel a strong commitment to developing new types of effective drugs that enable an improved quality of life for the patients. The employeeship at BioArctic is also characterized by a respectful conduct which is evaluated in the performance reviews.

### — Leadership is about motivation

BioArctic aims for line managers and project managers to have very good leadership skills, which means motivating and coordinating in order for all to maintain focus on our common goals. Coaching, participation and clear delegation are natural parts of the work. Leadership also requires good interpersonal skills combined with an informality that enables the manager to give support when needed. We want our employees to be positive to

change and see opportunities and solutions. In order to provide security within the organization we see stability as an essential trait. Good communication skills in combination with results orientation are also qualities that we value.

### — Competence development

The competence and commitment of our staff is decisive for BioArctic's success. We value everyone's expertise and accumulated experience and encourage continuous competence development and initiatives for increased knowledge and regular exchange of scientific knowledge. Among other things we arrange internal seminars in the research areas where we are active and invite external lecturers with specialist competence in relevant areas.

### — Safe and secure working environment

Our working environment should be a safe and secure one where all coworkers develop and feel committed. As a part of the company's systematic environment management work we continuously perform physical safety inspections with focus on laboratory and office environment. During the year we have also carried out a separate ergonomic review of the working places of all employees. A review of the psychosocial work environment has also been initiated and will be carried out by means of an employee survey in 2018. The annual performance reviews and regular follow-up meetings have a number of focus areas, including working environment factors and well-being. ►

*”We are convinced that participation, collaboration and feedback benefits a positive working climate and contributes to our coworkers' and BioArctic's success.”*

— **Diversity and equality**

BioArctic’s starting point is that all coworkers and applicants shall be treated equally. Each person has the same value and possibilities, regardless of background and individual differences. In interaction these differences increase the power of development and change and become an asset for the organization. Our diversity work means to not discriminate, but to value and manage diversity. At BioArctic there is zero tolerance of all forms of harassment. A movement that has characterized 2017 is #metoo. During the year BioArctic reviewed the company’s processes and systems to ensure that they are working in order to prevent inappropriate exercise of power. A trustworthy system for whistleblowers has been established.

*Diversity means variation and scope of people, thoughts and opinions – a mix of gender, transgender identity or expression, ethnicity, religion or other creed, disability, sexual orientation and age.*

Of BioArctic’s employees at the end of the year were 60 (62) percent women and 40 (38) percent men. In management positions were 33 (33) percent women and 67 (67) percent men.

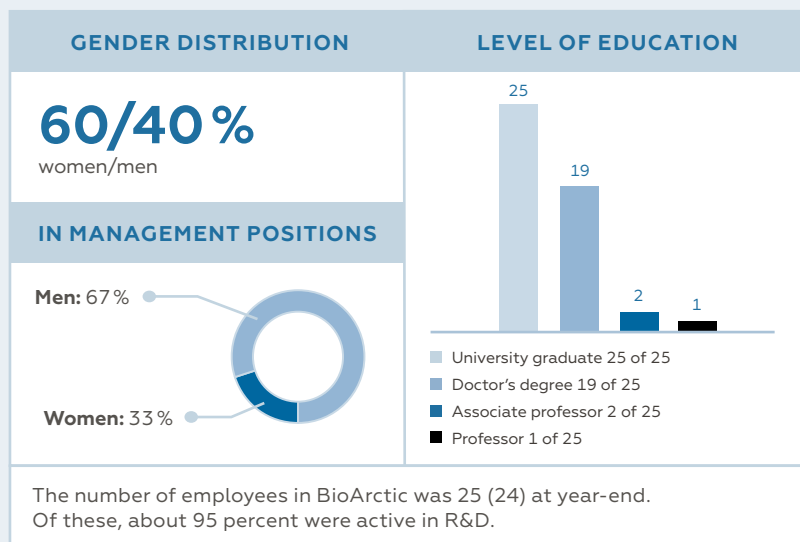
— **Recruitment**

During the year a number of new employees were recruited and new consultants contracted. BioArctic continuously develops and improves the recruitment process, in parallel with strengthening the company’s attractiveness as an employer. It is essential to attract the best persons in the competence areas for which the company has a need.



Patrik Nygren, senior scientist, with an instrument measuring protein/protein interactions, e.g. how an antibody binds to its target. Photo: Jan Torbjörnsson

## Staff facts<sup>1</sup>



1) All figures are calculated on the total number of employees, 25 persons, at December 31, 2017.



# BRINGING A DRUG FROM IDEA TO MARKET

BioArctic's proprietary technology, committed coworkers, collaborations with leading academic research groups and partnerships with global pharma companies has made it possible to develop innovative treatments based on antibodies (immunotherapy) for neurodegenerative diseases.

BioArctic is organized to have the necessary knowledge and competences that an innovative biopharma company in world-class needs. The organization consists of highly educated, research-oriented coworkers with extensive experience of drug development. The management team has more than 200 years of combined experience, the majority from research and development organizations at big pharma companies. The company's staff is well educated and includes 19 scientists with a doctoral degree, which means that some 80 percent of the employees have a doctor's degree in relevant research areas.

#### — Extensive competence

BioArctic has the internal knowledge base needed to conduct cutting edge research in neurodegenerative diseases. Our coworkers are educated at renowned universities, including Uppsala University,

KarolinskaInstitutet, Royal Institute of Technology, Stockholm University and Harvard Medical School and Health Center San Antonio in the US.

BioArctic's board and management team are well composed groups with competence and experience from leading academic positions as well as extensive industry and business background. Read more in the sections *Board of Directors* and *Management Team*.

#### — Scientific collaborations

BioArctic has extensive collaborations with leading external research groups at Uppsala University, Karolinska Institutet, Karolinska University Hospital, Gothenburg University, Linköping University and Lund University and the clinics involved in our clinical studies. The company also has extensive strategic collaborations with strong research partners like Eisai and AbbVie.

*“Approximately 80 percent of BioArctic's employees have a doctor's degree in relevant research areas.”*

# CORPORATE SOCIAL RESPONSIBILITY FOR A SUSTAINABLE DEVELOPMENT

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To conduct responsible research, to comply with our code of conduct, to invest in our working environment, to attract and retain very skilled and committed employees, that is the core of our approach to a sustainable business.



### **BioArctic's operations are characterized by that:**

1. We are firmly committed to being a leader in research and innovation in the company's therapeutic focus areas and to consequently upholding a high ethical level and integrity in all that we do.
2. We apply our expertise in science and innovation to some of the greatest global health challenges, such as Alzheimer's disease and Parkinson's disease.
3. We take on the challenge of solving the acute need for an innovative treatment for complete spinal cord injury.

#### **— Our role in society**

Society assumes that BioArctic performs an efficient, ethical and thorough research work in the development of our drugs and treatments. We take the safety measures and make responsible decisions as required by law and authorities. We actively follow changes regarding ethical issues in connection with new science and new technologies, and the potential risks for patients participating in clinical trials. Taking responsibility is one of our core values and also at the heart of our long-term business strategy and our daily work.

#### **— Quality management**

BioArctic's operations are strictly regulated and in addition there are very high demands for quality in everything that we do. This means that we in addition to complying with laws and regulations always must challenge ourselves and continue to strive for the best quality possible. During the year we have expanded our resources for quality management and focused on upgrading the system for quality control, among other things.

#### **— Code of conduct**

BioArctic wants to achieve an added value for the company's stakeholders without compromising with issues related to the environment, working environment or corporate responsibility. Ethical, social and environmental responsibility is an integral part of BioArctic's daily operations and should contribute to a sustainable development of the company that benefits all stakeholders long-term. As a part of the work with sustainability, we ensure that the contents of the code of conduct are kept up to date and are implemented in the operations.

#### **— Demands on suppliers and partners**

BioArctic puts high demands regarding sustainability, code of conduct and quality on our suppliers and partners. There are regulations requiring us to perform regular audits to ensure that our suppliers are compliant with the pharma industry's quality system, Good Manufacturing Practice (GMP). During 2017 BioArctic has regularly audited the company's most important suppliers according to a predetermined plan.

#### **— Work environment management**

Work environment management at BioArctic should be long-term and preventive and be seen as a natural part of the operations, of the decisions we make and of what we do. BioArctic conducts continuous systematic work environment management with regular studies of the working environment and with follow-up on measures decided. BioArctic also performs an annual follow-up and evaluation of the systematic work environment management of the past year. The working environment should be such that the risks for ill health and accidents are minimized and enabling well-being and development opportunities for the employees.

#### **— GDPR**

In order to prepare BioArctic for the new European General Data Protection Regulation (GDPR) coming into effect in May 2018, we have during the year performed extensive project work concerning new procedures and updated agreements and policy documents. All managers have also undergone training in GDPR.

# FROM THE LABORATORY TO THE STOCK MARKET

BioArctic's development has been a fascinating journey. The two founders of the company, Lars Lannfelt and Pär Gellerfors, have much interesting to tell.

It all started with discoveries that Professor Lars Lannfelt and his coworkers made in the 1990s. In 1992 he discovered a unique genetic mutation, the so-called "Swedish mutation" which proved to cause hereditary Alzheimer's disease. The publication of the discovery in Nature Genetics attracted great international attention and became one of the most cited Swedish publications of the 1990s.

## — A key to Alzheimer's disease

"That discovery helped us understand what goes wrong in Alzheimer patients and identify the peptide amyloid beta as the culprit," says Lars Lannfelt.

*A few years later he discovered a Swedish family with another genetic mutation, the "Arctic mutation". This concerned a special form of amyloid beta, the aggregated, soluble and toxic form of the peptide called protofibrils.*

"When we discovered the Swedish mutation I was unfortunately not aware of the possibility to patent and commercialize a discovery of this kind. The Arctic mutation offered a new opportunity to do this, and that was the start of BioArctic."

Professor Lannfelt's idea was to develop a treatment based on antibodies against amyloid beta that bind to the protofibrils and

destroy them. But he was well aware that scientific eminence as such is far from sufficient for an innovation to become a commercial success. He therefore contacted the holding company at Uppsala University, which offered advice and support in the first stages of the commercialization process. The advice concerning patents was especially valuable, he says, and also the first seed funding.

## — Important commercial contacts

The other founder of the company contributed extensive commercial experience. Pär Gellerfors had a background from Kabi and Pharmacia, where he among other things worked with marketing of the growth hormone product Genotropin. One of the major markets was Japan and Pär Gellerfors' Japanese contacts would prove of great value to the new company BioArctic.

"We decided at an early point that we didn't want to be dependent on venture capital. Instead we wanted to collaborate with an established pharma company to develop our idea," says Pär Gellerfors. "At the top of our list was the Japanese company Eisai that already had Aricept, the leading product for symptomatic treatment of Alzheimer's disease, on the market.

"One of my Japanese friends from the time with Pharmacia helped convey the contacts with Eisai and also gave valuable advice on how a small anonymous Swedish company like ours should

## Timeline

1990

1992

Professor Lars Lannfelt and his coworkers discover the Swedish mutation which leads to early development of Alzheimer's disease.

2000

Patent application for the discovery of the Swedish mutation is filed in the US.

2001

The discovery of the Arctic mutation is published.

BioArctic is founded by Lars Lannfelt and Pär Gellerfors.  
2003

behave and present our ideas. This turned out to be a stroke of luck. Eisai saw the potential of our project and wanted to collaborate.”

The first agreement between BioArctic and Eisai was signed in 2005, and since then the partnership has led to a number of additional research and license agreements.

“It takes many years for an idea for a treatment to become a product on the market. The agreement with Eisai gave us revenue long before we could have a final product. This is fairly unique in our line of business and has been a decisive success factor for BioArctic.”

### — Parkinson’s disease

Eventually BioArctic’s operations were widened also to other neurodegenerative conditions. Lars Lannfelt’s research group at Uppsala University also studied the causes behind Parkinson’s disease, where another protein, alpha-synuclein proved to play a decisive role. Mutations in the alpha-synuclein gene lead to Parkinson’s disease and soluble oligomers/ protofibrils of alpha-synuclein have significant neurotoxic effects. Using antibodies to attack oligomers/protofibrils of alpha-synuclein could therefore be a possible strategy for early treatment of Parkinson’s disease.

“Today the research at Uppsala University is led by my successor Professor Martin Ingelsson and BioArctic continues to have a close collaboration with the research group,” says Lars Lannfelt.

For the development work of a disease modifying treatment for Parkinson’s disease BioArctic has chosen a similar strategy as in the Alzheimer area. In the autumn of 2016 a research agreement could be signed between BioArctic and the global biopharma company AbbVie.

### — Complete spinal cord injuries

Also BioArctic’s third area, the treatment of complete spinal cord injuries, originates from Swedish academic research, in this case from Karolinska Institutet. In the mid-1990s Professor Lars Ols-

son developed a special technique for linking the severed nerve fibers in patients suffering from complete spinal cord injuries. Damaged nerve cells in the spinal cord cannot regenerate, but it is known that nerves from peripheral nerve systems have this capacity. By transplanting peripheral nerves into the spinal cord in combination with a growth factor regained motor function was demonstrated in animal models. Successful animal studies were performed at Karolinska Institutet and a company, Swenora Biotech AB, was founded to commercialize the treatment concept.

“At an event arranged by Vinnova I met an old colleague from Kabi, Hugo Thelin, who was a board member of Swenora,” Pär Gellerfors remembers. “He told me about Swenora’s spinal cord project and I understood that this could be something of interest for BioArctic. After a period of negotiations we entered into a license agreement in 2008.”

The operations on rats at Karolinska Institutet were done “freehand” by the surgeons, but it was obvious that a safer method would be needed to perform the procedure on humans. BioArctic devel-

oped a special device with channels that guide the outgrowth of new neural pathways and delays the release of the growth factor FGF1.

“We have received funding both from Vinnova and from EU’s research and development program Horizon 2020, which we take as confirmation of the potential of the project,” says Pär Gellerfors.

### — The listing a milestone

Lars Lannfelt and Pär Gellerfors see last year’s listing on the stock exchange as logical step in the company’s development and as an important milestone.

“In addition to access to new capital the listing also gives the company a clear exposure on the market. Now BioArctic is a name to be reckoned with in the industry. The journey here has been fascinating and I look forward to an even more exciting future,” says Lars Lannfelt.



Pär Gellerfors  
and Lars  
Lannfelt.

Karolinska Institutet Innovations AB invests in BioArctic (the holding was later transferred to Karolinska Development AB).  
**2004**

BioArctic moves into its own premises in Stockholm.  
**2006**

BioArctic enters into a license agreement with Swenora Biotech AB.  
**2008**

SC0806 gets orphan drug designation in the US.  
**2011**

The partner Eisai starts a clinical Phase 2b study with BAN2401 in the US and clinical development of BAN2401 starts in Japan.  
**2013**

A research agreement in Parkinson’s disease between BioArctic and AbbVie is signed.  
**2016**

**2005**  
The first research collaboration agreement with Eisai is signed concerning treatment of Alzheimer’s disease. Uppsala universitet Holding AB invests in BioArctic.

**2007**  
The first US patent for Alzheimer’s disease is granted. A license agreement concerning BAN2401 for the treatment of Alzheimer’s disease is signed with Eisai.

**2010**  
SC0806 gets orphan drug designation in the EU. The clinical development of BAN2401 starts.

**2012**  
BioArctic receives a grant from Vinnova for the clinical development of SC0806.

**2014**  
BioArctic receives a MEUR 6.4 grant from the EU’s research and development program Horizon 2020 for SC0806.

**2015**  
BioArctic and Eisai sign a new license and research agreement in Alzheimer’s disease.

**2017**  
BioArctic is listed on Nasdaq Stockholm Mid Cap.

# A STRONG PATENT PORTFOLIO

BioArctic has an active patent strategy covering all major drug markets, including the US, EU, Japan and China. At the end of 2017 the company has 11 patent families consisting of more than 100 granted patents and 50 patent applications covering properties, molecular structures and areas of use for the company's drug and product candidates and technology related to the research and development of the drug and product candidates.

For example, patents related to the company's leading candidates, BAN2401, BAN0805 and SC0806, in the three major indications provide patent protection with expected expiry dates in 2032, 2036 and 2032, respectively, including customary patent term extensions for BAN2401 and BAN0805. Furthermore, BioArctic has a strong portfolio of patents regarding diagnostic methods and the company's blood-brain barrier technology. BioArctic

also has extensive know-how relating to the development of antibodies binding to oligomer/protofibril-forms of misfolded proteins. In addition, BioArctic's biological drugs (BAN2401 and BAN0805) have data and market exclusivity for 12 years in the US and 10-11 years in Europe. The company's orphan drug SC0806 has regulatory exclusivity for 7 years in the US and 10 years in Europe.

## A COMPILATION AS AT DECEMBER 31, 2017 OF BIOARCTIC'S MAIN AND PUBLISHED PATENT FAMILIES IS SHOWN IN THE TABLE BELOW.

FAMILY	AREA	STATUS AND MARKET	PROTECTION TO
AD I	Alzheimer's disease – concept 1	<b>Granted:</b> USA, Canada, Japan, Australia	July 2021
AD II	Alzheimer's disease – concept 2	<b>Granted:</b> USA, Europe <sup>1</sup> , Canada, Australia	June 2025
AD III	Alzheimer's disease – substance 1 Specific protection for BAN2401	<b>Granted:</b> USA, Canada, Europe, Japan, China, among other countries	March 2027 (2032 with patent extension) <sup>2</sup>
AD IV	Alzheimer's disease – substance 2 Specific protection for BAN2401 back-up	<b>Granted:</b> USA <b>Pending:</b> Europe, Japan, China, among other countries	July 2035 (2040 with patent extension) <sup>2</sup>
PD V	Parkinson's disease – concept	<b>Granted:</b> USA, Japan <b>Pending:</b> Europe	July 2029
PD VII	Parkinson's disease – substance Specific protection for BAN0805	<b>Granted:</b> USA, Europe, Japan, China, Australia, among other countries <b>Pending:</b> Canada	March 2031 (2036 with patent extension) <sup>2</sup>
SP X	Spinal cord – method and mould The patents in this patent family are licensed from Swenora Biotech AB	<b>Granted:</b> Australia, Canada, Japan, USA <b>Pending:</b> Europe	March 2027
SP XI	Spinal cord – specific – device	<b>Granted:</b> China <b>Pending:</b> Europe, USA, Canada, Japan, Australia	December 2032

1) The concept patent in Europe is under processing at the European Patent Office's appeal board. This process was started before December 31, 2017.  
2) Assuming that a five year patent extension is granted.

# THE BIOARCTIC SHARE

BioArctic's market capitalization amounted to SEK 2.3 billion at the end of the year. Since the listing on Nasdaq Stockholm on October 12, 2017 the share price has had a positive development and has risen by 8.33 percent during the year.

## — Trading and market capitalization

BioArctic's B share (BIOA B) is listed on Nasdaq Stockholm since October 12, 2017. BioArctic is included in the MidCap segment and is classified as a company in the health care sector. The listing enables the company to pursue the business strategy to build a research portfolio with a number of innovative projects that at an appropriate point in time can be outlicensed to global pharma companies.

*At the end of the year 2017 the market capitalization was SEK 2.3 billion. The price of the BioArctic share was SEK 26.00 at the last day of trading in December 2017.*

BioArctic's B-share had a positive development of 8.33 percent during 2017. The share had its highest price at SEK 32.00 on October 13 and the lowest, SEK 22.90, at December 22. The introductory price was SEK 24.00.

## — Share capital and number of shares

At the end of the year the share capital amounted to SEK 1,761,200 spread over 88,059,985 shares; 14,399,996 of which are unlisted A-shares and 73,659,989 are B-shares. The A-share has ten votes per share while the B-share has one vote per share. The quotient value per share is SEK 0.02.

## — Share turnover

In 2017 a total of 11.6 million B-shares were traded at a value of MSEK 300.9. On average 211,586 BioArctic B-shares were traded per day. Excluding the notation day October 12, a total of 4.1 million B-shares were traded at a value of MSEK 109.0. On average 75,220 shares were traded per day excluding the notation day.

## — Dividends and dividend policy

BioArctic's revenue and profit are mainly based on income of

non-recurring character under the license and collaboration agreements that the company has entered into. BioArctic will continue focusing on developing and expanding the company's project portfolio. The available financial resources and the reported result should therefore be reinvested in the operations to finance BioArctic's long-term strategy.

The board does therefore not intend to propose any dividends to the shareholders until BioArctic generates long-term sustainable profitability. Any future dividends and the size thereof will be determined based on the company's long-term growth, earnings trend and capital requirements, taking into account the current objectives and strategies. Dividends shall, in so far as dividends are proposed, be well-balanced with respect to the goals, scope and risks of the operations.

## — Ownership structure

At the end of 2017 BioArctic had 2,398 shareholders. Swedish owners accounted for 81 percent of the capital and 92 percent of the votes. BioArctic's foreign institutional investors, primarily in Europe and the US, accounted for 19 percent of the capital and 8 percent of the votes. BioArctic's A-shares are owned by Demban AB and Ackelsta AB, companies owned by the founders of BioArctic.

## — Information to shareholders

BioArctic informs its shareholders and the outside world through multiple channels. Information made public in press releases, interim reports and annual reports are published at the company's website Bioarctic.com. Here also material from the presentations of the interim reports is available for downloading by journalists, investors, analysts and other interested parties. BioArctic's website is the main channel for the annual report, therefore the annual report is not sent to shareholders who have not explicitly requested this. ►



CEO Gunilla Osswald together with the founders of BioArctic – Pär Gellerfors (left) and Lars Lannfelt (right).  
Photo: Jan Torbjörnsson

#### — Financial calendar

2018	April 26	Interim report January – March
	May 15	Annual General Meeting
	August 23	Interim report January – June
	November 8	Interim report January – September
2019	February 13	Full year report 2018 (preliminary date)

#### — Analysts continuously monitoring BioArctic

Carnegie: Erik Hultgård, erik.hultgard@carnegie.se  
DNB (Den Norske Bank): Patrik Ling, patrik.ling@dnb.se

#### Development of the number of shares 2017

DATE	SHARE EVENT	NUMBER OF NEW SHARES	A-SHARES	B-SHARES	TOTAL NUMBER OF SHARES
Jan 1			3,199,999	1,004,000	4,203,999
Aug 1	Bonus issue	–	3,199,999	1,004,000	4,203,999
Aug 1	Split 15:1	58,855,986	47,999,985	15,060,000	63,059,985
Sep 18	Reclassification of A-shares to B-shares	–	14,399,996	48,695,989	63,059,985
Okt 12	Issue of new shares	25,000,000	14,399,996	73,659,989	88,059,985
Dec 31			14,399,996	73,659,989	88,059,985

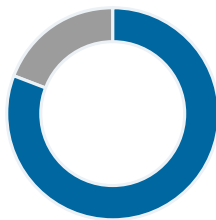


The number of shareholders is 2 398 and the ten largest shareholders according to Euroclear Sweden AB at December 31, 2017 are as shown below:

OWNER	NUMBER OF A-SHARES (10 VOTES PER SHARE)	NUMBER OF B-SHARES (1 VOTE PER SHARE)	SHARE OF CAPITAL (%)	SHARE OF VOTES (%)
Demban AB <sup>1)</sup>	8,639,998	22,848 159	35.76	50.19
Ackelsta AB <sup>2)</sup>	5,759,998	15,232,989	23.84	33.46
AP3 (3rd Swedish National Pension Fund)	–	4,112,611	4.67	1.89
CBLDN-OM GLBAL Investors Series PLC	–	3,356,832	3.81	1.54
MSIL IPB CLIENT ACCOUNT	–	2,677,069	3.04	1.23
Handelsbanken fonder	–	2,472,941	2.81	1.14
SEB S.A. Client Assets Ucits.	–	1,595,630	1.81	0.73
State Street Bank and Trust Client	–	1,573,264	1.79	0.72
DB LDN GPF CLT OMNI FULL TAX	–	1,550,812	1.76	0.71
AP4 (4th Swedish National Pension Fund)	–	1,500,000	1.70	0.69
<b>10 Largest shareholders</b>	<b>14,399,996</b>	<b>56,920,307</b>	<b>80.99</b>	<b>92.31</b>
Other shareholders	–	16,739,682	19.01	7.69
<b>Total</b>	<b>14,399,996</b>	<b>73,659,989</b>	<b>100.00</b>	<b>100.00</b>

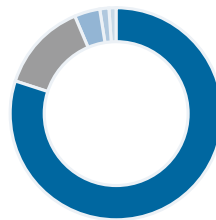
1) Demban AB is controlled by the co-founder of BioArctic and board director Lars Lannfelt.  
2) Ackelsta AB is controlled by the co-founder of BioArctic and board director Pär Gellerfors.

#### Distribution of Swedish/foreign ownership at December 31, 2017\*



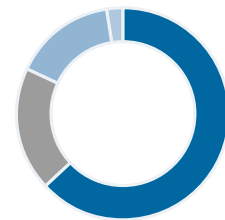
● Swedish shareholders 80.9%  
● Foreign shareholders 19.1%

#### Ownership distribution by geography at December 31, 2017\*



● Sweden 80.9%  
● Europe 13.5%  
● U.S. 4.0%  
● Nordic 1.4%  
● Rest of the world 0.2%

#### Ownership category at December 31, 2017\*



● Legal entities (Sweden): 63.1%  
● Foreign shareholders: 19.1%  
● Funds and institutions (Sweden): 15.5%  
● Private individuals (Sweden): 2.3%

#### Distribution of shares at December 31, 2017\*

NUMBER OF SHARES	NUMBER OF SHAREHOLDERS	A-SHARES	B-SHARES	TOTAL NUMBER OF SHARES (%)
1 – 500	1,883	–	482,370	0.55
501 – 1,000	217	–	191,856	0.22
1,001 – 5,000	179	–	392,386	0.45
5,001 – 10,000	32	–	260,658	0.30
10,001 – 50,000	35	–	882,320	1.00
50,001 –	52	14,399,996	71,450,399	97.49
Totals at Dec 31, 2017	2,398	14,399,996	73,659,989	100.00

\* Source: Euroclear Sweden AB.

## MANAGEMENT



**GUNILLA OSSWALD**

**President and Chief Executive Officer**  
In the current position since 2014, employed since 2013. More than 30 years' experience from drug development. Successfully brought projects from preclinical and clinical development to regulatory approval and market introduction and managed in- and outlicensing of drug projects. Leading positions at Astra/AstraZeneca during 1985-2013, including Vice President with the responsibility of the product portfolio in neurodegenerative diseases

**Born:** 1961

**Education:** Pharmacist and PhD in biopharmacy and pharmacokinetics at Uppsala University

**Other current assignments:** Board member of PledPharma AB (publ), Spine-Medical AB and deputy board member of LPB Sweden AB

**Prior assignments (past five years):** Board member of SP Process Development AB, SpineMedical Sverige AB and LPB Sweden Holding AB

**Holdings:** 12,800 B-shares and 5,818 call options entitling to the acquisition of 87,270 B-shares



**JAN MATTSSON**

**Vice President Finance, Chief Financial Officer**  
In the current position since 2017, employed since 2017. More than 30 years' experience of business administration and finance, as CFO of Sefina Finance AB, Allenex AB, Argnor Wireless Ventures AB, Logitail AB and Investment AB Kinnevik

**Born:** 1960

**Education:** Master of Business Administration, University of Örebro, 1984

**Other current assignments:** -

**Prior assignments (past five years):** Board member of Sefina Finance AB, Sefina Svensk Pantbelåning AB and Humidus AB

**Holdings:** 15,000 B-shares (privately and through the associated company Almsäter Interim Management AB) and 1,818 call options entitling to the acquisition of 27,270 B-shares



**CHRISTINA ASTRÉN ERIKSSON**

**IR & Communications Director**  
Under contract since 2015 and for investor relations since 2017. More than 30 years' experience of corporate communications, as communications director at Pfizer, AstraZeneca, Wyeth and Pharmacia and as interim head of IR & communications at Orexo AB (publ)

**Born:** 1959

**Education:** Degree in journalism, Stockholm University, 1984. Graduate from IHR (Institutet för Högre Kommunikations- och Reklamutbildning), Stockholm University, 1988

**Other current assignments:** -

**Prior assignments (past five years):** -

**Holdings:** 25,000 B-shares (through the associated company C Astrén AB)



**MATS HOLMQUIST\***

**Responsible for Quality Assurance**  
Employed since 2008. More than 20 years' experience from roles in academia, international biotechnology and pharma companies like Cyros AB and AstraZeneca

**Born:** 1967

**Education:** Master of Engineering in chemical engineering at KTH (Royal Institute of Technology), 1990, Doctor of Science in biochemistry at KTH, Associate Professor in Biochemistry, KTH, 2000

**Other current assignments:** -

**Prior assignments (past five years):** -

**Holdings:** 1,818 call options entitling to the acquisition of 27,270 B-shares



**MIKAEL MOGE**

**Vice President Chemistry, Manufacturing & Control and Protein Chemistry**

In the current position since January 2018, employed since 2012. 20 years' experience of drug development and 15 years' experience as head of research and development in process development and GMP manufacturing. Previously section manager in process R&D at AstraZeneca

**Born:** 1967

**Education:** Master of Engineering in chemical engineering at KTH (Royal Institute of Technology), Doctor of Science in organic chemistry at KTH

**Other current assignments:** -

**Prior assignments (past five years):** -

**Holdings:** 455 call options entitling to the acquisition of 6,825 B-shares



**HANS BASUN**

**Vice President Clinical Development, Chief Medical Officer**

In the current position since 2007, employed since 2007. More than 20 years' experience of the pharma industry in leading positions in clinical research at Astra Arcus/AstraZeneca. A background as Chief Physician at Huddinge University Hospital and Professor at Uppsala University Hospital

**Born:** 1949

**Education:** Medical degree and specialist training in psychiatry and geriatrics. Associate Professor at Karolinska Institutet and Adjunct Professor at Uppsala University

**Other current assignments:** Deputy board member of Spine Medical AB

**Prior assignments (past five years):** – **Holdings:** 20,823 B-shares and 1,818 call options entitling to the acquisition of 27,270 B-shares



**JOHANNA FÄLTING**

**Vice President Translational Science & Pharmacology**

In the current position since January 2018, employed since 2012. 15 years' experience of neuroscience/pharmacology, drug research, translational science and development in global pharma industry and biotechnology

**Born:** 1972

**Education:** Master's degree in biology, Stockholm University 1995; Licentiate degree in physiology, Stockholm University, 1997; PhD in Physiology, Stockholm University, 2001

**Other current assignments:** Deputy board member of Biozoul AB

**Prior assignments (past five years):** – **Holdings:** 10,000 B-shares and 1,818 call options entitling to the acquisition of 27,270 B-shares



**PÄR GELLERFORS**

**Senior Vice President Business Strategy**

Co-opted member of the management team. In the current position since 2014, employed since 2003, previously CEO 2003-2013. Founder of BioArctic together with Lars Lannfelt. More than 30 years' experience of drug development and business development from Pharmacia and biotech companies. Co-founder of HemeBiotech/Zymenex A/S

**Born:** 1947

**Education:** Bachelor degree in chemistry at Stockholm University, 1967; PhD in chemistry Stockholm University, 1977; Associate Professor of Biochemistry at Stockholm University, 1983

**Other current assignments:** CEO and board member of Swenora Biotech AB, board member of BioArctic AB, Ackelsta AB, LPB Sweden AB and deputy board member of Otwomed AB

**Prior assignments (past five years):** CEO and board member of GPM Medical AB, SpineMedical Sverige AB, SpineMedical AB and board member of LPB Sweden Holding AB

**Holdings:** 5,759,998 A-shares and 15,232,989 B-shares (through the related company Ackelsta AB)



**CHRISTER MÖLLER**

**Vice President Pre-Clinical Development, Chief Scientific Officer**

In the current position since 2006, employed since 2006. 20 years' experience of the development of protein drugs, from idea to clinical trials, among other things in leading positions in small biotech/pharma companies like Zymenex A/S. In addition, extensive academic experience from conducting research projects concerning growth factors and preclinical research in diabetes

**Born:** 1959

**Education:** B.Sc. in Biology at Stockholm University, 1983; PhD in Medical Science, Karolinska Institutet, 1992

**Other current assignments:** -

**Prior assignments (past five years):** - **Holdings:** 16,500 B-shares and 1,818 call options entitling to the acquisition of 27,270 B-shares



**NORA SJÖDIN \*\***

**Vice President Regulatory Affairs**

In the current position since January 2018, employed since 2017. 25 years' experience from leading positions in global Regulatory Affairs in companies as AstraZeneca, NDA Regulatory Services and most recently from Pharmedica. Her genuine experience covers regulatory issues from projects in early phase to approved drugs on the market

**Born:** 1957

**Education:** BA, registered nurse

**Other current assignments:** -

**Prior assignments (past five years):** - **Holdings:** -

**Changes in the management team:**

\*Mats Holmquist left the management team on December 31, 2017.

\*\*Nora Sjödin joined the management team effective January 1, 2018.

The titles of the other senior managers refer to the organization effective from January 1, 2018.

**Holdings:**

Holdings in BioArctic AB at December 31, 2017.

## BOARD OF DIRECTORS



WENCHE ROLFSEN

**Born:** 1952  
**Position:** Chairman of the board since September 2017; chairman of the Remuneration Committee  
**Education:** Pharmacist, Doctor of pharmacy (pharmacognosy), Adjunct Professor at Uppsala University  
**Background:** Head of pharmacology at Pharmacia & Upjohn; VP clinical trials Quintiles Europe, CEO of Scandinavian Quintile's organization  
**Other current assignments:** Chairman of InDex Pharmaceuticals Holding AB, InDex Pharmaceuticals AB and Sarsia Seed Fund, Norway; board member of Swedish Match AB, Recipharm AB and InDex Diagnostics AB, and CEO and board member of Rolfsen Consulting AB. Partner in Serendipity Partners  
**Prior assignments (past five years):** CEO of InDex Pharmaceuticals AB, chairman of Aprea Therapeutics AB, Denator AB, Aprea Personal AB, Smartfish AB and board member of Moberg Pharma AB, TFS Trial Form Support International AB and Apotek Produktion & Laboratorier AB  
**Holdings:** 19,200 B-shares and 1,818 call options entitling to the acquisition of 27,270 B-shares



LARS LANNFELT

**Born:** 1949  
**Position:** Board member since 2003  
**Education:** Medical degree 1978; specialist in psychiatry 1987; doctoral thesis at Karolinska Institutet 1990; Associate Professor of Neurogenetics at Karolinska Institutet 1993; specialist in geriatrics 2000  
**Background:** Professor of Geriatrics at Uppsala University 2001; Senior Professor at Uppsala University 2016 and member of The Royal Swedish Academy of Sciences since 2004. One of the founders of BioArctic in 2003, chairman of the board 2003-2017 (September) and a number of assignments and roles in the company  
**Other assignments:** Board member of Demban AB and LPB Sweden AB  
**Prior assignments (past five years):** Board member of Demban Förvaltning AB, SpineMedical Sverige AB, SpineMedical AB and LPB Sweden Holding AB  
**Holdings:** 8,639,998 A-shares and 22,848,159 B-shares through Demban AB



IVAR VERNER

**Born:** 1947  
**Position:** Deputy chairman since 2017, board member since 2010, chairman of the Audit Committee  
**Education:** Master of Business Administration, Stockholm School of Economics  
**Background:** Former certified public accountant, partner and chairman of Grant Thornton Sweden AB  
**Other assignments:** Chairman of Rejlers AB (publ), Welcome Hotel i Sverige AB, Erlandssons Brygga AB, Centrum Fastigheter i Norrtälje AB, Norrländska Grupp-bostäder Holding AB, Tegnér & Son AB, Firren AB and Valsättra Exploaterings AB. Board member of Förvaltningsaktiebolaget Kanalen, Verner & Partners AB, Casa Firmus Holding AB and Valsättra Tomter AB  
**Prior assignments (past five years):** Chairman of Constrera AB and SpineMedical AB. Board member of Forex Bank AB and Svenska Vårdfastigheter AB  
**Holdings:** 72,500 B-shares through Förvaltningsaktiebolaget Kanalen AB and 1,818 call options entitling to the acquisition of 27,270 B-shares



HANS EKELUND

**Born:** 1948  
**Position:** Board member since 2014, member of the Audit Committee and the Remuneration Committee  
**Education:** Master of Business Administration, Stockholm School of Economics  
**Background:** Previously CFO of Ratos and a number of assignments as board member  
**Other assignments:** Chairman of Connect Öst (non-profit organization) and board member of Ekarna Invest AB  
**Prior assignments (past five years):** Chairman of Minimarket Stockholm AB and chairman and deputy board member of Wave Impact Heat Management AB. Board member of SpineMedical Sverige AB and SpineMedical AB  
**Holdings:** 42,500 B-shares through Ekarna Invest AB and 1,818 call options entitling to the acquisition of 27,270 B-shares



PÄR GELLERFORS

**Born:** 1947  
**Position:** Board member since 2003  
**Education:** Bachelor degree in chemistry at Stockholm University 1967; PhD in chemistry at Stockholm University 1977; Associate Professor of Biochemistry at Stockholm University 1983  
**Background:** One of the founders of BioArctic in 2003 and CEO from 2003 to 2013. Now Senior Vice President Business Strategy and co-opted member of the management team. More than 30 years' experience of drug and business development from Pharmacia and biotech companies. Co-founder of HemeBiotech/ Zymenex A/S  
**Other assignments:** CEO and board member of Swenora Biotech AB, board member of Ackelsta AB, LPB Sweden AB and deputy board member of Otomed AB  
**Prior assignments (past five years):** CEO and board member of SpineMedical Sverige AB and SpineMedical AB and board member of LPB Sweden Holding AB  
**Holdings:** 5,759,998 A-shares and 15,232,989 B-shares through Ackelsta AB



EUGEN STEINER

**Born:** 1954  
**Position:** Board member since 2017, member of the Audit Committee and the Remuneration Committee  
**Education:** Medical doctor, PhD in clinical pharmacology at Karolinska Institutet  
**Background:** 30 years' experience of leading life science companies. Prior to that active as a doctor at Karolinska Hospital (Huddinge) and researcher at Karolinska Institutet. Venture partner to HealthCap since 1997 and CEO of several companies in which HealthCap has invested. Extensive experience from board positions in Sweden, Norway, the UK and the US  
**Other assignments:** CEO and chairman of NVC Holding AB and CEO of Glionova AB. Board member of Apotek Produktion & Laboratorier AB, Inbox Capital AB, Stiftelsen Forska/Sverige, Stockholm School of Entrepreneurship and Setraco AB. Deputy board member of Doctrin AB  
**Prior assignments (past five years):** CEO and board member substitute of Optivy Sweden AB, CEO of Nordic Vision Clinics AS and chairman of Biostratum Inc., LTB4 Sweden AB, CC10 Sweden AB, Globen Ögonklinik AB and PanSyn Sweden AB. Board member of Alba Therapeutics Inc., Hanza Holding AB, MD International AB, Nephrogenex Inc. and Praktikertjänst Aktieföretag  
**Holdings:** 40,000 B-shares through Setraco AB and 1,818 call options entitling to the acquisition of 27,270 B-shares

# Board of directors' report

The board of directors and the CEO of BioArctic AB (publ), corporate identity number 556601-2679, hereby submit the annual report and consolidated financial statements for the fiscal year January 1 – December 31, 2017.

## OPERATIONS

BioArctic AB (publ) based in Stockholm, Sweden, is the parent company in the BioArctic Group, which also includes the inactive subsidiaries SpineMedical AB and LPB Sweden AB. BioArctic is a research based biopharma company focusing on disease modifying treatments and diagnostics for neurodegenerative diseases, such as Alzheimer's disease and Parkinson's disease. BioArctic also develops a treatment for complete spinal cord injury. BioArctic focuses on new types of treatments in areas with great unmet medical needs.

BioArctic has high scientific competence and experience in developing drugs from idea to market. Collaborations with universities are of great importance to BioArctic together with the strategically important global partners in the Alzheimer and Parkinson projects. BioArctic conducts its own clinical development in the field of complete spinal cord injury, a project partly funded by the EU's research and development program Horizon 2020. Through long-term collaboration agreements with global pharmaceutical companies, BioArctic has demonstrated its skills and ability to deliver innovative drug projects.

In the treatment area Alzheimer's disease, BioArctic has collaborated with Eisai since 2005. BioArctic has entered into a total of three research collaboration agreements and two license agreements relating to the antibodies BAN2401 and BAN2401 back-up. The total value of these agreements may amount to MEUR 218 in addition to royalties. So far, MEUR 47 has been received. In the treatment area Parkinson's disease, BioArctic has collaborated with AbbVie since 2016, when a research collaboration agreement was concluded including, among other things, the antibody BAN0805. AbbVie has the right to acquire a license to develop and commercialize the antibodies. The total aggregated value of the agreement may amount to MUSD 755, of which MUSD 80 has so far been received. In addition, royalty payments may be received.

During the financial year BioArctic has received four grants from Vinnova, to the total amount of MSEK 1.6.

The project portfolio is a combination of fully funded projects run in partnership with global pharma companies and innovative in-house projects with significant market and out-licensing potential.

BioArctic's B-share is listed on Nasdaq Stockholm Mid Cap (BIOA B).

## ORGANIZATION

The average number of employees in BioArctic during the year amounted to 26 (22). At December 31, 2017 the number of employees is 25 (24). Of these employees 15 (15) are women. About 95 percent of the total number of employees are active in research and development.

BioArctic to a great extent utilizes external companies e.g. for the production of drug substances and the conduct of clinical trials. In order to run an efficient operation with a relatively small

organization BioArctic hires key consultants for specific assignments and for tasks in areas of expertise that the company lacks or only requires from time to time.

BioArctic strives to offer competitive salaries and benefits and applies individual salaries adapted to the local labor market. BioArctic's ambition is to offer a work environment that promotes health and well-being and a healthy work/life balance within the framework of the company's operations.

## PROJECT PORTFOLIO

At December 31, 2017 BioArctic has two projects in clinical phase: BAN2401 for Alzheimer's disease and SC0806 for patients with complete spinal cord injury. The Group has four projects in pre-clinical development at December 31, 2017: BAN2401 for Down's syndrome with dementia and traumatic brain injury, BAN2401 back-up for Alzheimer's disease, BAN0805 for Parkinson's disease and a biomarker and diagnostics project for Alzheimer's disease.

There are a number of projects in research phase at December 31, 2017; three for Alzheimer's disease (AE1501, AD1502 and AD1503), follow-up projects for Parkinson's disease, biomarker and diagnostics projects for Parkinson's disease and a blood-brain barrier technology project.

## MAJOR AGREEMENTS

### — Eisai

Since 2005 BioArctic has a long-term collaboration with Eisai in the area of Alzheimer's disease. Within the framework of the collaboration BioArctic and Eisai have entered into several agreements, among others the development and commercialization agreement concerning the antibody BAN2401 entered into in 2007 and a similar agreement concerning BAN2401 back-up entered into in 2015. BioArctic has granted Eisai a global and exclusive license concerning research, development and commercialization of drugs using the antibodies for the treatment of Alzheimer's disease. Eisai is responsible for the clinical development, applications for market approval and commercialization of the products. BioArctic retains the rights to market the licensed products in the Nordic countries and the rights to the antibodies for the treatment of other indications than Alzheimer's disease.

### — AbbVie

In September 2016 BioArctic and AbbVie entered into a collaboration and license agreement concerning the development and commercialization of BioArctic's antibodies to alpha-synuclein for the treatment of Parkinson's disease and other potential indications and related diagnostics.

BioArctic has entered into an agreement with AbbVie including a research collaboration and an exclusive option on a license for further development and commercialization of products containing BioArctic's antibody BAN0805 and other antibodies discovered or developed within the framework of the research collaboration. BioArctic has the primary responsibility for the pre-clinical development work.

# Board of directors' report *cont.*

## — Swenora Biotech AB

The commercialization of SC0806, BioArctic's product for the treatment of patients with complete spinal cord injury, is governed by a license agreement from September 2008 between the company and Swenora Biotech AB. Under the agreement BioArctic has obtained a global exclusive right to developing, marketing and selling the technology and the product that may be suitable to commercialize, based on the results from the clinical development. BioArctic has financed the preclinical development and pays for the clinical development of the project, partly funded by the EU's Horizon 2020. BioArctic has made a one-time payment to Swenora in connection with signing of the agreement and in connection with that a regulatory milestone was reached. The payments totaled MSEK 0.8. If the project develops positively BioArctic will make milestone payments to Swenora when development-related and regulatory milestones are achieved, and royalty on future sales.

## — The EU's research and development program Horizon 2020

For the clinical development of SC0806 BioArctic and its partners have received a grant from the EU program Horizon 2020 (Grant Agreement No. 643853) from the European Commission amounting to a maximum of MEUR 6.4. So far MEUR 4.2 has been received. BioArctic is the project coordinator and coordinates the work and the reporting of results to Horizon 2020 for the six parties included in the project, in addition to BioArctic Karolinska University Hospital and rehabilitation clinics in Sweden, Estonia, Finland and Norway. Since August 2017, patients treated with SC0806 in the ongoing Phase 1/2 study are offered participation in a 12 months' extension study.

## KEY EVENTS DURING THE FINANCIAL YEAR

During the year BioArctic prepared for listing of the company's B-share on Nasdaq Stockholm and October 12 was the first day of trading on the MidCap list. As part of the preparations, Jan Mattsson was hired as CFO and some changes in the composition of the board of directors were made. New chairman is Wenche Rolfsen, new deputy chairman is Ivar Verner and new board member is Eugen Steiner. The previous chairman Lars Lanfelt remains a board member and Mikael Smedeby left his task as board member. In connection with the listing an acquisition of capital brought the Group MSEK 600 before issue expenses. BioArctic's share has been well received on the stock market and at the end of the year it closed at SEK 26.00, which means an 8.3 percent increase since the listing.

Alzheimer's disease: On December 21 BioArctic announced that the Phase 2b study with BAN2401 in patients with early stage Alzheimer's disease continues toward final analysis after 18 months of treatment. The efficacy criteria at a 12-month interim analysis of ADCOMS (primary endpoint) were not met. The study

will remain blinded per protocol until completion. During the year a US patent was granted for the second generation's antibody BAN2401 back-up.

Parkinson's disease: The European Patent Office granted BioArctic's patent for the drug candidate BAN0805 in Europe.

Complete spinal cord injury: An independent expert committee has performed an interim analysis evaluating safety and tolerability. The results of the analysis give support for continuing the clinical study with SC0806. Submitted changes in the study protocol for the clinical study with SC0806 were approved by an ethics committee and the Swedish Medical Products Agency. Since August patients treated with SC0806 in the ongoing study Phase 1/2 study are offered 12 month's further participation in an extension study.

## FIVE YEAR SUMMARY

AMOUNTS IN KSEK	2017	2016	2015	2014 <sup>1</sup>	2013 <sup>1</sup>
<b>Income statement</b>					
Net sales	140.7	105.6	41.6	53.7	55.7
Other operating income	19.0	39.1	7.6	1.0	3.6
Costs	-140.2	-69.8	-44.3	-47.7	-51.0
Operating profit	19.3	74.6	4.8	6.9	8.3
Profit for the year	15.2	57.6	3.7	6.8	9.2
<b>Balance sheet</b>					
Non-current assets	10.0	8.5	12.7	13.0	16.4
Current assets	20.1	7.0	4.6	8.5	10.1
Cash and cash equivalents	1,110.4	692.5	113.8	132.8	158.1
Equity	636.1	60.8	108.3	104.6	97.8
Deferred tax liabilities	5.5	4.1	-	1.4	2.4
Current liabilities	498.9	643.1	22.8	48.4	84.4
<b>Cash flow</b>					
From operating activities	-135.3	675.1	-16.4	-24.2	72.3
From investing activities	-2.8	-3.0	-2.3	-1.3	-2.2
From financing activities	560.2	-105.1	-	-	-
Cash flow for the year	422.1	567.1	-18.7	-25.5	70.1
<b>Key figures</b>					
Equity/asset ratio, %	55.8%	8.6%	82.6%	67.7%	53.0%
Return on equity, %	4.3%	68.1%	3.5%	6.7%	9.9%
<b>Data per share, SEK</b>					
Earnings per share	0.22	0.91	0.06	0.11	0.15
Equity per share	7.22	0.96	1.72	1.66	1.55
Cash flow from operating activities per share	-1.99	10.71	-0.26	-0.38	1.15

<sup>1)</sup> Fiscal years 2013 and 2014 have been recalculated to IFRS.

### — Net sales

Net sales amounted to MSEK 140.7 (105.6), which is an increase by MSEK 35.1 compared to the previous year. The increase is mainly attributable to revenues from the research collaboration with AbbVie in Parkinson's disease. Due to the nature of the operations large fluctuations between revenues for various periods may occur.

### — Operating profit

Other operating income primarily relates to rental revenues, research grants, exchange rate gains and one-time payment for sub-leasing and amounted to MSEK 19.0 (39.1) in 2017. The reason for the decrease during 2017 is due to the fact that the accrued revenues from the EU's Horizon 2020 are lower and that BioArctic had large exchange rate gains in 2016.

Operating costs amounted to MSEK 140.2 (69.8). The increase during the year is explained by increased research and development costs as a result of the collaboration agreement with AbbVie and increased expenses as BioArctic is a listed company since October 2017. The administrative expenses increased, primarily due to the work in connection with the IPO, and amounted to MSEK 31.5 (14.5) during the year. Of the increase, the expenses attributable to the IPO amounted to MSEK 11.0 (0.0). In addition to the expenses for the IPO which have been reported in the income statement, transaction costs of MSEK 39.8 have been reported in equity. The total expenses for the IPO including the acquisition of capital during the year amounted to MSEK 50.8. Other operating expenses primarily consist of exchange rate losses and amounted to MSEK 5.7 (0.2) during the year. As BioArctic does not meet all the conditions for capitalizing research and development costs, these have been expensed in their entirety.

Operating profit for the year amounted to MSEK 19.3 (74.6), which is a decrease by MSEK 55.3. The decrease is primarily explained by the positive effect in 2016 of the one-time payment from AbbVie amounting to MSEK 70.4 taken up as income and by increased administration costs due to the IPO.

### — Profit for the year and earnings per share

Net financial items amounted to MSEK 0.4 (-0.5) in 2017. Profit before tax amounted to MSEK 19.7 (74.1). The tax expense for the year amounted to MSEK 4.5 (16.6) and the effective tax rate was 23,0 percent (22,3). Profit for the year amounted to MSEK 15.2 (57.6) for 2017 and earnings per share before and after dilution to SEK 0.22 (0.91).

### — Financial position

BioArctic's balance sheet total at December 31, 2017 amounted to MSEK 1,140.4 (708.0). The equity amounted to MSEK 636.1 (60.8) at December 31, 2017. This corresponds to equity per outstanding share of SEK 7.22 (0.96) before and after dilution. The

equity/assets ratio has increased from 8.6% at December 31, 2016 to 55.8% at December 31, 2017. The increase is due to the acquisition of capital that took place in connection with the listing of BioArctic's B-share on Nasdaq Stockholm in October 2017. There were no loans as of December 31, 2017 and no loans have been taken since this date. The Group has no other credit facility or loan commitments.

### — Cash flow

Cash flow from operating activities in 2017 amounted to MSEK -135.3 (675.1). The decrease of cash flow compared to the preceding year is related to the one-time payment from AbbVie that was received in 2016.

The cash flow from investment activities during the year amounted to MSEK -2.8 (-3.0). The investments in tangible fixed assets for the year amounted to MSEK 3.4 (3.0) and were mainly related to scientific instruments.

The cash flow from financing activities during the year amounted to MSEK 560.2 (-105.1) and relates to the acquisition of capital that took place in connection with the listing of BioArctic's B-share on Nasdaq Stockholm in October 2017.

Cash flow for the year amounted to MSEK 422.1 (567.1) and the Group's cash and cash equivalents at December 31 amounted to MSEK 1,110.4 (692.5).

### — Environmental work and work environment

BioArctic is a responsible business partner and employer and adheres to environmental and health and safety legislation. In addition, the company has internal policies including guidelines for the environment and the work environment. Pharmaceutical research is conducted in BioArctic's premises in Stockholm. The activities are conducted in accordance with the permits granted to BioArctic by the relevant authorities. For example, the company has permits from the Swedish Work Environment Authority concerning the use of chemicals and from the Swedish Board of Agriculture concerning the import and use of tissues in the company's laboratory. In accordance with Swedish environmental legislation BioArctic is registered with the County Administrative Board to conduct its activities. BioArctic is not involved in any environmental dispute. No working place accidents were reported to the Swedish Work Environment Authority in 2017.

BioArctic only contracts manufacturers of drugs (antibodies) whose plants are certified in accordance with the relevant legislation. The same applies to the procurement of services from so-called CROs (Contract Research Organizations).

A movement that has characterized 2017 is #metoo. During the year BioArctic reviewed the company's processes and systems to ensure that they are working in order to prevent inappropriate exercise of power. A trustworthy system for whistleblowers has been established.



## IT SECURITY

The importance of protecting the company's information makes IT security a high priority in BioArctic. The company's IT policy includes guidelines for use, data storage and communication. All data are copied and handled according to defined security and back-up procedures. Computers and programs are secured by means of local hardware encryption. BioArctic also continuously works to strengthen the employees' safety awareness in handling both hardware and software. The company is preparing for meeting the requirements of the European Data Protection Regulation, GDPR, which comes into effect in May 2018.

## RISKS AND UNCERTAINTY FACTORS

Company management makes assumptions, judgments and estimates that affect the content of the financial statements. Actual results may differ from these assumptions and estimates, as is also stated in the accounting principles. The objective of the Group's risk management is to identify, measure, control and limit the risks of the business.

The risks can be divided into external, internal and financial risks. For the financial risks, see also Note 3.

### — External risks

#### *Market*

BioArctic's success and long-term value development is dependent on a high scientific quality of research and the ability to assess the risks involved in the operations and in the market where BioArctic operates and has control over factors that can be influenced. If competitors win market share with their products or competing research projects achieve better effect and reaches the market faster than BioArctic's products, the future value of BioArctic's project and product portfolio may be lower than initially expected.

#### *Projects and products*

Research and drug development up to market approval is a risky process requiring much capital. The majority of the projects that are started will never reach market approval. Crucial for the future of BioArctic is the company's ability to develop new drug candidates, enter into partnerships and successfully lead own projects to market introduction and sales.

Even if the treatments in BioArctic's project and product portfolio gain regulatory approval there are also other factors that decide if the company's product achieves commercial success. Factors like effect, price, side-effects, treatment options, among others, affect the possibilities to gain acceptance among doctors, patients and client organizations, and so does the choice of sales and marketing strategies.

#### *Regulatory issues*

BioArctic is exposed to regulatory decisions like necessary approvals for conducting clinical trials and commercializing the drugs, and changes in the rules for pricing and reimbursement of drugs or changed conditions for a given prescription.

#### *Competition and commercial success*

BioArctic operates in a large and attractive medical area, thus there is significant competition and competitors may develop, market and sell drugs that are more effective, safer and lower priced than BioArctic's products. The pharma industry is very competitive and there is a risk that the current product margins cannot be maintained. A number of BioArctic's major competitors develop and market drugs for the same diseases that BioArctic intends to target. Competitors may also have higher manufacturing and distribution capacity as well as more sales and marketing opportunities than BioArctic or BioArctic's partners.

### — Internal risks

#### *Research and development*

Research and development of drugs is associated with high risk as great financial resources are invested in a product that may never become a finished medical product. Many projects are discontinued during the process as the substances developed either cannot demonstrate intended effect or turn out to have too great negative side-effects. Other competing pharma and biotech companies conducting research in the same therapy area may cause BioArctic's research projects to appear less attractive to complete and cause them to be discontinued at an earlier stage.

#### *Product liability and insurances*

BioArctic's operations involve product liability, which is unavoidable in connection with research and development, preclinical studies, clinical trials, production, marketing and sales of drugs. Even if BioArctic finds the current insurance protection sufficient, the extent of the insurance protection and the compensation amount is limited. There is thus no guarantee that BioArctic will receive full compensation for any damages under the existing insurance coverage. It cannot be guaranteed that a suitable insurance coverage can be obtained at acceptable cost, or that such insurance coverage can be obtained at all. Nor can any guarantees be made as to which impact product liability claims or other claims may have on BioArctic's operations or financial position.

#### *Production*

BioArctic has no in-house manufacturing, which means that the company relies on subcontractors for the production of products and drugs and for production for projects in preclinical and clinical phase. Relevant substance must be produced in sufficient quantity and of sufficient quality. There is a risk that BioArctic cannot meet its production needs at a reasonable cost at a given point in time.

### *Patent protection*

BioArctic's future success to a large extent depends on the company's ability to gain and retain protection for the intellectual property rights related to BioArctic's products. The conditions for gaining patent protection for inventions in the pharma and biotech area are generally difficult to assess and involve complex legal and scientific issues. There is no guarantee that BioArctic can gain and retain patents for its products or technologies. Even when patents are granted they can be disputed, declared invalid or circumvented, which may limit BioArctic's ability to prevent competitors from marketing similar products and decrease the time under which BioArctic has patent protection for its future products.

### *Collaboration agreements*

A significant component of BioArctic's operations and market strategy is to enter into collaboration agreements with pharma and biotech companies for the development and sales of potential products. Disagreements and conflicts may occur between BioArctic's partners or counterparts concerning the terms of existing agreements, e.g. the interpretation of clinical data, the achievement of milestone payments, interpretations of financial remuneration for or the ownership to patents and similar rights that have been developed within the framework of these collaborations. Currently BioArctic is to a large extent dependent on partners that are significantly bigger than BioArctic.

### *Clinical trials, safety and efficacy criteria*

Before a new product in the form of a drug substance can be introduced on the market it must be demonstrated that it complies with the stringent standards for safety and efficacy established by the authorities in the countries where the drug is planned to be marketed. The process for regulatory approval normally requires extensive preclinical and clinical studies that are very costly and time consuming. The US Food and Drug Administration (FDA), the European Medicines Agency (EMA) and other regulatory authorities may delay, limit or simply deny granting market authorization for one or more causes, if a drug substance is not safe or effective, among others. If BioArctic does not succeed in getting approval of their current or future drug candidates, it will not be possible to market and sell them. Any shortcomings or delays in the implementation of preclinical or clinical trials will delay and thereby reduce BioArctic's ability to generate revenue from the commercialization of these drug candidates, which may have considerable negative financial effects for BioArctic.

### *Dependence on key personnel*

BioArctic is to a great extent dependent on key personnel. The ability to recruit and retain qualified personnel is of utmost importance to ensure the competence level in the company.

## — Financial risks

### *Currency risk*

BioArctic has a relatively large commitment in foreign currency. This is hedged by keeping liquidity in the currencies where there is an exposure. To fully maintain this at any given point in time is complicated, thus it cannot be ruled out that there may be an extra foreign currency exposure at times.

### *Counterparty risk*

BioArctic only collaborates with creditworthy counterparts, which is important as the company has only a few counterparties that generate revenue.

### *Liquidity and refinancing risk*

BioArctic has very good liquidity but not yet any products on the market generating revenue from sales or royalties. At the time when the company intends to carry out a refinancing there may be uncertainties concerning market conditions and internal conditions for a refinancing.

## KEY EVENTS AFTER THE END OF THE FINANCIAL YEAR

BioArctic's patent was granted in the US and Japan for a method with a medical device, which is one of the components in the product candidate SC0806, for treatment of patients with complete spinal cord injury.

BioArctic obtained approval from the Estonian and Norwegian authorities for drugs and medical devices and the local ethical committees to include Estonian and Norwegian patients in the company's ongoing clinical Phase 1/2 study with SC0806 for the treatment of patients with complete spinal cord injury.

## FUTURE PROSPECTS

After the acquisition of capital that took place in connection with the listing on Nasdaq Stockholm in October 2017, BioArctic is well positioned not only to continue developing and working with the projects covered by the big strategic collaboration agreements, but also to run the company's in-house projects in the three treatment areas Alzheimer's disease, Parkinson's disease and complete spinal cord injuries.

## GUIDELINES FOR REMUNERATION TO SENIOR EXECUTIVES

The company shall offer company management market level compensation that makes it possible to recruit and retain senior executives. The compensation to the company management shall consist of fixed salary, customary employment benefits and pension. Variable compensation can also be paid.

The fixed salary shall take into account the individual's responsibilities and experience, and be reviewed annually. The

division between fixed salary and any variable remuneration shall be proportional to the executive's responsibility and authority. The variable remuneration shall always be limited to a predetermined maximum amount and be linked to predetermined and measurable criteria and designed to achieve greater community of interest between the executive and the company's shareholders. The earning period or alternatively the time from entering into the agreement until a share may be acquired shall not be less than three years in share and share price related incentive programs. The terms for variable remuneration shall be designed so that the board, under particularly difficult circumstances, has the possibility to restrict or refuse to give out variable remuneration if this is deemed to be unreasonable and inconsistent with the company's responsibility to the shareholders. For variable remuneration it is possible to restrict or refuse to pay variable remuneration if the board considers that this is justified for other reasons.

Pension terms shall be in accordance with market practice for corresponding positions and be based on defined contribution solutions.

Fixed salary during the period of notice and severance pay shall together not exceed an amount corresponding to the fixed salary for two years.

Executives who hold a position as board member or deputy board member shall not receive a special board fee for this.

The board is allowed to deviate from these guidelines in individual cases should there be special reasons for doing so.

Information on the guidelines for remuneration adopted at the annual general meeting 2017 and other principles for terms of employment concerning senior executives is given in Note 9.

## PARENT COMPANY

BioArctic AB (publ) based in Stockholm, Sweden is the parent company of the BioArctic Group. All the Group's operations are conducted in the parent company. The parent company's net profit amounted to MSEK 10.4 (42.9) for the financial year 2017.

## BIOARCTICS SHARE AND OWNERSHIP

BioArctic's B-share began trading on Nasdaq Stockholm on October 12, 2017 under the ticker "BIOA B". The initial listing price was SEK 24.00. Market capitalization at the end of 2017 was SEK 2.3 billion. During 2017 BioArctic's share saw a positive development of 8.33 percent. The BioArctic B-share reached its highest level of SEK 32.00 on October 13, whereas it recorded its lowest price of SEK 22.90 on December 22. BioArctic's share price was SEK 26.00 on the last trading day of December 2017.

The main owners are Demban AB with 50.19% of the votes and 35.76% of the capital and Ackelsta AB with 33.46% of the votes and 23.84% of the capital.

## DIVIDEND

The board proposes that no dividend shall be paid for the financial year 2017.

## PROPOSED APPROPRIATION OF PROFIT

The following funds are at the disposal of the annual general meeting:

AMOUNTS IN SEK	DECEMBER 31, 2017
Share premium	560,017,974
Retained earnings	43,577,052
Profit for the year	10,367,436
<b>Total</b>	<b>613,962,462</b>

The board proposes that the profit for the year SEK 10,367,436 and retained profits SEK 43,577,052 and share premium reserve SEK 560,017,964 be carried forward.

As regards the Group's and parent company's result and position in general, see the following income statement and balance sheet with accompanying notes.

# Corporate governance report

## GENERAL

BioArctic AB (publ) is a Swedish public limited liability company, corporate identity number 556601-2679, with its registered office in Stockholm, Sweden. BioArctic's B-share (BIOA B) is listed on Nasdaq Stockholm since October 12, 2017.

Corporate governance refers to the rules and decision-making hierarchies that contribute to the efficient and controlled management of the operations of a company, with the aim of meeting the owners' demands for return on invested capital. Corporate governance in Sweden has traditionally been regulated by law. In addition, the industry's self-regulatory bodies have continuously presented various provisions concerning corporate governance. Companies listed on a regulated market shall apply the Swedish Code of Corporate Governance ("the Code") issued by the Swedish Corporate Governance Board. More information on the Code is available at [www.bolagsstyrning.se](http://www.bolagsstyrning.se).

BioArctic's corporate governance has, prior to the listing on Nasdaq Stockholm, been governed by the Swedish Companies Act and other applicable laws and regulations, the company's articles of association and internal policy documents. After the listing on Nasdaq Stockholm the Swedish Companies Act, BioArctic's articles of association, Nasdaq Stockholm's rules for issuers, the Code and other applicable laws and regulations form the basis for corporate governance within BioArctic. Also internal regulations and instructions affect BioArctic's corporate governance, e.g. the rules of procedure of the board, instructions for the CEO (Chief Executive Officer), instructions for financial reporting and other policy documents within the Group.

BioArctic aims for a high standard by clarity and simplicity in the management system and the governing documents. Governance, management and control of BioArctic is divided between the annual general meeting, the board of directors, the CEO and the auditors in accordance with the Swedish Companies Act and the articles of association. Through increased openness and transparency a good insight into the company's activities is provided, which contributes to effective governance.

## BIOARCTIC'S APPLICATION OF THE CODE

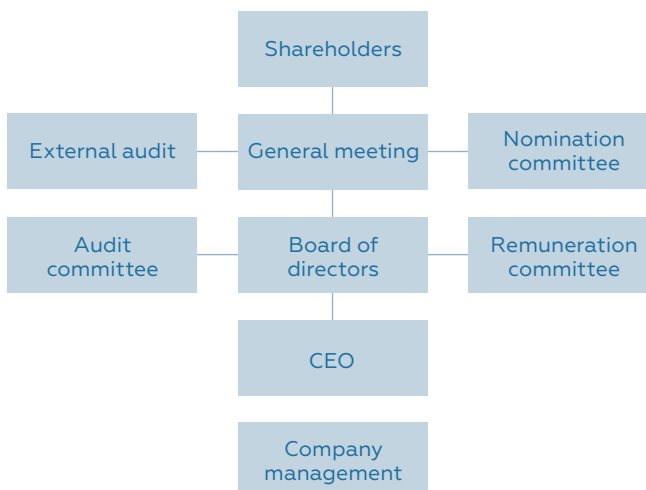
BioArctic applies the Code since the listing on Nasdaq Stockholm on October 12, 2017. No deviation from the code has occurred during the year.

## COMPLIANCE WITH STOCK EXCHANGE REGULATIONS AND GOOD PRACTICES ON THE STOCK MARKET

BioArctic has not been subject to any decision of the Nasdaq Stockholm disciplinary board or any statement by the Swedish Securities Council.

## CORPORATE GOVERNANCE STRUCTURE

The following figure gives an overview of BioArctic's corporate governance structure.



## SHAREHOLDERS

BioArctic's B-share (BIOA B) is noted on Nasdaq Stockholm. At December 31, 2017 the share capital in BioArctic amounted to SEK 1,761,199.70 divided into 14,399,996 series A-shares (number of votes: 10) and 73,659,989 series B-shares (number of votes: 1), each with a quotient value of SEK 0.02. The number of shareholders at the end of the year was 2,398. (Source: Euroclear Sweden AB).

At December 31, 2017 the following shareholders had a holding in BioArctic representing at least one tenth of the voting power of all shares in the company:

Shareholder	Share of votes in BioArctic
Demban AB (controlled by board member Lars Lannfelt)	50.19%
Ackelsta AB (controlled by board member Pär Gellerfors)	33.46%

For further information on BioArctic's share and ownership structure, see the section The BioArctic share on pp. 31-33.

## GENERAL MEETING AND ANNUAL GENERAL MEETING

The shareholders' influence in the company is exercised at the general meeting, which is the company's highest decision-making body. Shareholders who wish to participate in the proceedings at the meeting must be registered in the share register kept by Euroclear Sweden AB five weekdays before the general meeting, and notify the company not later than the date specified in the notice of

the meeting. This day must not be a Sunday, another public holiday, Saturday, Midsummer's Eve, Christmas Eve or New Year's Eve, and may not fall earlier than the fifth weekday before the meeting.

At the company's annual general meeting income statements and balance sheets are adopted, the board and auditors are elected, remunerations are determined and other statutory issues or matters prescribed by the Code are resolved. At the meeting there are opportunities for shareholders to ask questions to the board of directors, management and auditors. BioArctic's articles of association contain no restrictions on how many votes each shareholder can cast at a general meeting. Nor do the articles of association contain any specific provisions relating to the appointment or dismissal of board members or the amending of the articles of association.

The notice to attend a general meeting shall be published in the Swedish National Gazette (Sw. Post- och Inrikes Tidningar) and on the company's website. At the time of the notice, information relating to the notice shall be advertised in Svenska Dagbladet. Notice of an annual general meeting or extraordinary general meeting where amendment of the articles of association will be processed shall be issued not earlier than six (6) and not later than four (4) weeks prior to the meeting. Notice of other extraordinary general meeting shall be issued not earlier than six (6) and not later than three (3) weeks prior to the meeting. The minutes of the meeting shall be available on the company's website no later than two weeks after the meeting.

#### *Annual General Meeting May 31, 2017*

The annual general meeting was held on May 31, 2017 in Stockholm. At the annual general meeting the following matters were treated:

- Adoption of annual accounts and consolidated accounts, decision on appropriation of profits and decision on the discharge of liability to the board and the CEO
- Determination of remuneration to the board of directors and the auditors
- Election of board members and auditor. Hans Ekelund, Pär Gellerfors, Wenche Rolfsen, Ivar Verner and Mikael Smedeby were re-elected as board members. Lars Lannfelt was re-elected as chairman of the board. As auditor the registered auditing firm Grant Thornton Sweden AB was appointed, with authorized public accountant Mia Rutenius as auditor in charge
- Decision on the establishment of a nomination committee and guidelines for the work of the nomination committee
- Decision on guidelines for remuneration to senior executives
- The adoption of measures in order to prepare the company for a listing, including the decision on a bonus issue, decision on a share split, decision on changing the corporate category from private to the public, and decision on the adoption of new articles of association
- Decision authorizing a new share issue (for more information, see below)
- Decision authorizing other issues (for more information, see below)

#### *Extraordinary general meeting September 4, 2017*

An extraordinary general meeting was held on September 4, 2017. At the extraordinary general meeting the following matters were treated:

- Determination of new fees for the board of directors (for more information, see the section "Remuneration to the board of directors" below)
- Determination of remuneration for work on the audit committee and the remuneration committee (for more information, see the section "Remuneration to the board of directors" below)
- Election of board members and new chairman of the board. Wenche Rolfsen was elected new chairman of the board and Ivar Verner was elected new deputy chairman. Eugen Steiner was elected new member of the board

Minutes and other documentation from the general meetings are available at BioArctic's website [www.bioarctic.com](http://www.bioarctic.com).

#### *Authorizations decided by general meetings in 2017*

The general meeting has during 2017 given the following authorizations to the board to decide on the company issuing new shares. The general meeting has not given any authorizations to the board to decide on the company acquiring own shares.

#### *Authorization for a new share issue in connection with the listing on Nasdaq Stockholm*

At the annual general meeting on May 31, 2017 it was resolved to authorize the board of directors to, on one or more occasions, decide to increase the company's share capital through a new share issue. The board may decide to issue shares by way of derogation from the shareholders' preferential rights and/or provision for non-cash issue, set-off or other conditions according to the 2nd chapter, 5 §, second section 1-3 and 5 of the Swedish Companies Act. The authorization was valid up to the listing on Nasdaq Stockholm.

Issue in accordance with the authorization shall be made on market terms. The board may determine the terms for issues in other respects according to the authorization and who shall be entitled to subscribe for the shares. The reason why the board should be able to make decisions on issues by way of derogation from the shareholders' preferential rights and/or provision for non-cash issue, set-off or other conditions is primarily in order to broaden the ownership in the company in preparation for and in connection with a listing of the company's shares. If the board finds it suitable to facilitate the delivery of shares in connection with a listing of the company's shares and/or diversification of ownership a new issue can also take place at a subscription price corresponding to the quotient value of the share.

With support of the authorization the board decided to issue 25,000,000 new shares of series B in the company in connection with the offering to the public and institutional investors conducted in connection with the listing on Nasdaq Stockholm in October 2017.

### *Authorization for other issues*

At the annual general meeting on May 31, 2017 it was resolved to authorize the board of directors to, on one or more occasions, decide to increase the company's share capital. The board may decide to issue shares by way of derogation from the shareholders' preferential rights and/or provision for non-cash issue, set-off or other conditions according to the 2nd chapter, 5 §, second section 1-3 and 5 of the Swedish Companies Act.

The authorization is valid from the point in time when the company's share started trading on Nasdaq Stockholm up to the annual general meeting 2018. The board may not make decisions that mean that the share capital increases by more than ten (10) percent in relation to the share capital that exists when the authorization is first used.

Issue in accordance with the authorization shall be made on market terms. The board may determine the terms for issues in other respects according to the authorization and who shall be entitled to subscribe for the shares, warrants and/or convertible bonds. The reason why the board shall be able to make decisions on issues by way of derogation from the shareholders' preferential rights and/or provision for non-cash issue, set-off or other conditions according to the above is that the company shall be able to issue shares, warrants and/or convertible bonds in order to obtain new capital and enable the company to direct issues to investors that the board considers to be strategically important for the company and/or acquire property by issuing own shares, warrants or convertible bonds. If the board finds it suitable to facilitate the delivery of shares in connection with a new issue according to the above this can also take place at a subscription price corresponding to the quotient value of the share.

### **ANNUAL GENERAL MEETING 2018**

The annual general meeting 2018 will be held on Tuesday, May 15, 2018 at 05.00 p.m. at Grant Thornton Sweden AB, Sveavägen 20 in Stockholm.

### **NOMINATION COMMITTEE**

According to the resolution at the annual general meeting in BioArctic on May 31, 2017 the members of the nomination committee for the 2018 annual general meetings shall be appointed by the chairman of the board by contacting the three largest shareholders according to Euroclear Sweden AB's transcription of the share register as of September 30, 2017 and asking each of them to appoint a member of the nomination committee. In the event that any of the three largest shareholders does not wish to appoint a member of the nomination committee, further shareholders should be contacted until the nomination committee consists of three members.

At September 30, 2017 the three largest shareholders were Demban AB, Ackelsta AB and Karolinska Development AB. The latter, however, has chosen to give up its seat on the nomination committee

for the benefit of the Third Swedish National Pension Fund, which is the company's third largest owner (according to Euroclear Sweden AB) after the diversification of ownership in connection with BioArctic's listing on Nasdaq Stockholm in October 2017.

The composition of the nomination committee shall be announced on the company's website no later than six months prior to the annual general meeting. The nomination committee represents the company's shareholders and shall prepare and submit proposals to the annual general meeting for decisions on the election of chairman of the board, deputy chairman (if any), and other board members, fees for the chairman and the other board members, and possible remuneration for committee work, the election of and fees to the auditor and deputy auditor (if applicable), resolution on the principles for appointing the nomination committee, and election of the chairman of the meeting.

The nomination committee for the annual general meeting consists of Anki Dahlin (Demban AB), Claes Andersson (Ackelsta AB) and Gunnar Blix (the Third Swedish National Pension Fund). The nomination committee appoints a chairman from among its members. All shareholders have been given the opportunity to present proposals for board members for further evaluation in the context of the committee's work. The nomination committee has had one (1) meeting in 2017 as well as informal contacts.

As a basis for its evaluation of the composition of the board the nomination committee has had access to the evaluation performed by the board and also had the opportunity to meet the board members individually. Based on this evaluation and the opportunity to consider proposals for new board members the nomination committee works out a proposal for the board that will be announced in connection with the notice of the 2018 annual general meeting. The auditors are appointed by the annual general meeting annually. In the election of auditors the audit committee (consisting of chairman Ivar Verner, Hans Ekleund and Eugen Steiner) supports the nomination committee in the development of proposals. The current auditors, Grant Thornton Sweden AB, were first elected at the 2016 annual general meeting.

### **BOARD OF DIRECTORS**

#### **The board's responsibility and tasks**

The board of directors is ultimately responsible for BioArctic's organization and the management of the company's operations, which should be conducted in the best interest of the company and all shareholders.

The main tasks of the board include managing strategic issues concerning operations, financing, establishments, growth, result and financial position and continuously monitoring the company's financial situation. The board shall also ensure that there are effective systems for monitoring and control of the company's operations and ensure that BioArctic's information is transparent and accurate, relevant and reliable.

### **The board's working practices and work allocation**

The board adheres to written rules of procedure that are revised annually and adopted at the inaugural board meeting held in connection with the annual general meeting. The rules of procedure govern, among other things, board practices, tasks, the decision-making procedure within the company, the board's meeting agenda, the chairman's duties and the allocation of responsibilities between the board and the CEO.

At the board meeting on February 17, 2017 it was decided to establish an audit committee. At the board meeting at May 31, 2017 it was decided to establish a remuneration committee.

Instructions for financial reporting and instructions for the CEO are also determined in connection with the inaugural board meeting.

### **Composition of the board of directors**

According to BioArctic's articles of association the board shall consist of no less than three and no more than eight members with no deputies. The members are normally elected at the annual general meeting for the time up until the next annual general meeting, but additional board members can be elected during the year at an extraordinary general meeting. The company shall have one or two auditors with or without deputy auditors.

The board consists of six members, without deputies: Wenche Rolfsen (chairman), Ivar Verner (deputy chairman), Lars Lannfelt, Pär Gellerfors, Hans Ekelund and Eugen Steiner. Mikael Smedeby was elected board member at the annual general meeting on May 31, 2017. He resigned from his duties as board member at his own request on June 21, 2017 in order to meet the requirements of the stock market concerning the number of independent board members.

The board considers that Wenche Rolfsen, Ivar Verner, Hans Ekelund and Eugen Steiner are independent to the company as well as to company management and major shareholders. Hans Ekelund is a cousin of Lars Lannfelt's wife. The board considers that this circumstance does not mean that he should not be considered to be independent to the company, its management and major shareholders.

Lars Lannfelt and Pär Gellerfors are the company's main shareholders and together own, through their own companies, a total of 35.76% of the shares representing 50.19% of the votes; 23.84% of the shares representing 33.46% of the votes in the company, respectively. Pär Gellerfors is employed by the company and adjunct in the company's management team. Lars Lannfelt was previously employed by the company and a member of the management team. Since September 2017, Lars Lannfelt is active in the company as contractor corresponding to a service level of approx. 40%.

Pär Gellerfors and Lars Lannfelt are thus not considered to be independent to the company, its management and major shareholders.

The board's composition, with members with different backgrounds and broad aggregate experience, means that the board

members together have the knowledge required for the work of the board, including issues related to drug development, industry knowledge, strategy and corporate management. It also means that the company management enjoys good individual support from board members in questions relating e.g. to science, research, contacts with regulatory authorities, law, finance, accounting, communications and organizational development.

The board members' age, educational background, working experience, significant current assignments, year of election and holdings in BioArctic is described in the presentation of the board on page 36.

### **Chairman of the board of directors**

The role of the chairman is to lead the board of directors' work and to ensure that the work is carried out efficiently, and that the board fulfils its obligations according to the Swedish Companies Act and the rules of procedure of the board. The chairman shall, through contact with the CEO, continuously receive the information needed to be able to monitor the company's position, financial planning and development. The chairman shall also consult with the CEO on strategic matters and verify that the board's decisions are implemented in an effective manner. The chairman is responsible for contacts with the shareholders in ownership matters and for communicating the views of the owners to the board. The chairman does not take part in the operative work in the company, nor is she a member of the management team. Wenche Rolfsen was elected chairman of the board at an extraordinary general meeting on September 4, 2017. Prior to this Lars Lannfelt was the company's chairman of the board since 2003.

### **Remuneration to the board of directors**

At the extraordinary general meeting on September 4, 2017 the board's remuneration was determined to amount to a total of SEK 1,262,500. The remuneration should be SEK 425,000 to the chairman, SEK 237,500 to the deputy chairman, SEK 200,000 to newly elected board members and SEK 200,000 to the former chairman who remains a board member, and SEK 200,000 to each of the other board members not employed by the company. The fees apply for the current term until the next annual general meeting. It was further decided that a fee amounting to SEK 60,000 should be paid to the members of the audit committee. For work in the remuneration committee each member receives a fee of SEK 40,000.

### **The board of directors' work during the year**

In 2017 the board held 26 meetings, two of which were inaugural meetings directly adjacent to the annual general meeting on May 31, 2017 and the extraordinary general meeting on September 4, 2017. The minutes taken at these meetings are minutes recording decisions.

The board's regular meetings are prepared by the chairman of the board together with the company's CEO. Prior to each

board meeting the board receives a written material as a basis for the issues and decisions that will be addressed at the meeting. At some board meetings one or more representatives from the company management may participate to account for matters within their respective areas. At each regular board meeting an update on the operations and a financial follow-up is given. These reports are compiled by the CEO and the CFO (Chief Financial Officer). During the year also matters relating to the IPO, current and potential partners, organization and competence requirements have been discussed. The company's auditor participated in the meeting which dealt with the annual accounts. In this way the board and the auditor had the opportunity to discuss the operations, accounts and audit work.

### Audit committee

At the board meeting on February 17, 2017 it was decided to establish an audit committee. During the year the audit committee consisted of Ivar Verner (chairman), Hans Ekelund, Wenche Rolfsen up to September 4, 2017 and Eugen Steiner from September 4, 2017. The audit committee met six (6) times in 2017.

The board of directors' audit committee shall consist of at least three members, one of whom shall be the chairman, and works according to rules of procedure adopted by the board. The audit committee's role is mainly to monitor the company's financial position, to monitor the effectiveness of the company's internal control, internal audit and risk management, to be informed about the audit of the annual report and consolidated financial statements, and to review and monitor the auditor's impartiality and independence.

The audit committee approves any additional missions for the

external auditors and makes a review of the additional missions with respect to their independence. The audit committee shall also assist the nomination committee in proposals for resolutions on the election and remuneration of the auditor and continuously meet the company's auditor. All meetings of the audit committee are minuted and the minutes are presented to the board together with an oral report in connection with the board's decision making.

Issues addressed in 2017 include risk analysis, internal and external financial reporting, review of the outcome of the examination of the operations performed by the auditor elected at the annual general meeting and issues related to internal control and the authorization manual.

### Remuneration committee

At the board meeting on May 31, 2017 it was decided to establish a remuneration committee. The remuneration committee consists of Wenche Rolfsen (chairman), Hans Ekelund, Lars Lannfelt up to September 4, 2017 and Eugen Steiner from September 4, 2017. The remuneration committee has met one (1) time in 2017.

The board of directors' remuneration committee shall consist of at least three members, one of whom shall be the chairman. The committee works according to rules of procedure adopted by the board. The remuneration committee's role is primarily to prepare matters regarding remuneration and other terms of employment for the CEO and other senior executives.

The remuneration committee shall also monitor and evaluate ongoing and during the year completed programs for variable remuneration to the company's management and monitor and evaluate the implementation of the guidelines for remuneration to senior executives adopted by the annual general meeting. All

BOARD MEMBER	INDEPENDENT TO THE COMPANY AND ITS MANAGEMENT	INDEPENDENT TO MAJOR SHARE-HOLDERS	PRESENCE BOARD MEETINGS	PRESENCE REMUNERATION COMMITTEE	PRESENCE AUDIT COMMITTEE
Wenche Rolfsen <sup>1)</sup>	Yes	Yes	26 of 26	1 of 1	4 of 4
Hans Ekelund	Yes	Yes	26 of 26	1 of 1	6 of 6
Pär Gellerfors	No	No	24 of 26		
Lars Lannfelt <sup>2)</sup>	No	No	26 of 26	1 of 1	
Mikael Smedeby <sup>3)</sup>			7 of 7		
Eugen Steiner <sup>4)</sup>	Yes	Yes	11 of 11		2 of 2
Ivar Verner	Yes	Yes	25 of 26		6 of 6

<sup>1)</sup> Wenche Rolfsen was elected chairman of the board at the extraordinary general meeting on September 4, 2017.

Member of the audit committee up to the extraordinary general meeting on September 4, 2017. Chairman of the remuneration committee.

<sup>2)</sup> Lars Lannfelt remains as a board member from September 4, 2017, previously chairman of the board. Member of the remuneration committee up to the extraordinary general meeting on September 4, 2017.

<sup>3)</sup> Mikael Smedeby resigned from his duties as board member at his own request on June 21, 2017 in order to meet the requirements of the stock market concerning the number of independent board members.

<sup>4)</sup> Eugen Steiner was elected board member at the extraordinary general meeting at September 4, 2017. Member of the audit committee and remuneration committee from September 4, 2017.



meetings of the remuneration committee are minuted and the minutes are presented to the board together with an oral report in connection with the board's decision making

### **Evaluation of the work of the board of directors**

In accordance with what is laid down in the rules of procedure for the board of directors, the board continuously evaluates its work through open discussions in the board and through an annual board evaluation. The result of the annual evaluation is submitted to the nomination committee. The nomination committee has also had individual meetings with the board members in order to be able to ask questions about the work of the board.

### **Evaluation of the work of the CEO**

In accordance with what is laid down in the rules of procedure for the CEO, the board continuously evaluates the work of the CEO through open discussions and an annual evaluation. The board deals specifically with this issue at least once a year, with nobody from the company management present. Regular and systematic assessment forms the basis for the evaluation of the CEO's performance and for a continuous development of the work.

### **AUDITORS**

The company's auditor, Grant Thornton Sweden AB, was first elected at the annual general meeting 2016. The current term is for the period until the end of the annual general meeting 2018. Mia Rutenius is the auditor in charge. During the year the company's auditor has, in addition to auditing the company's accounts, also performed a review of the interim reports for the periods January – March and January – June and been engaged in audit matters in connection with the company's listing on the stock exchange. As described under "The board of directors' work during the year" the company's auditor has also met the board at the board meeting dealing with the annual accounts. For information on remuneration to auditors, see Note 10.

### **CEO AND COMPANY MANAGEMENT**

The CEO's and the senior executives' age, main education, working experience, major current assignments and holdings in BioArctic are shown in the presentation of the management team on pp. 34-35.

### **INTERNAL CONTROL CONCERNING THE FINANCIAL REPORTING**

The overall purpose of the internal control is to ensure, to a reasonable degree, that the company's operating strategies and targets are monitored and that the owners' investments are protected. Furthermore, the internal control shall ensure, with reasonable certainty, that the external financial reporting is reliable and prepared in accordance with good accounting

practice, that applicable laws and regulations are followed, and that the requirements imposed on listed companies are complied with. The board of directors has the overall responsibility for the internal control.

The Swedish Companies Act and Annual Accounts Act contain requirements which mean that information about the main features of BioArctic's system for internal control and risk management should be part of the company's corporate governance report. The board's responsibility for the internal control is also regulated in the Code. The board shall among other things ensure that BioArctic has good internal control and formal procedures ensuring that established principles for financial reporting and internal control are observed and that there are adequate systems for monitoring and control of the company's operations and the risks associated with the company and its operations.

In order to maintain a good internal control the board has adopted a number of governing documents, e.g. rules of procedure for the board, instructions for the CEO, instructions for financial reporting, a financial policy and an information policy. The board annually assesses the need for establishing a separate internal audit function. Considering the background that BioArctic was noted in the fourth quarter of 2017, the board decided not to set up internal audit function for the 2017 fiscal year.

The board has also established an audit committee whose main tasks among other things include monitoring and quality assurance of the company's financial reporting, continuous contacts with the company's external auditor, to monitor the effectiveness of the company's internal control concerning financial reporting, and to review and monitor the auditor's impartiality and independence. Within the board the audit committee also has the main responsibility for monitoring and managing risks that may affect the company's operations negatively.

The responsibility for ongoing internal control and risk management has been delegated to the company's CEO, who regularly reports to the board in accordance with the established instructions.

The internal control and risk management are controlled and evaluated on an ongoing basis through internal and external audits and evaluations of the company's governing documents. Invoices are for instance reviewed by the orderer and authorized by another person within the company in accordance with the established authorization manual and year-end procedures are performed in duality, so that all tasks performed are always verified by another person within the company.

In addition to the above described internal control there is also internal operations specific control of data regarding research and development and quality control including a systematic monitoring and evaluation of the company's research and manufacturing work and products.

Work concerning internal control is in progress. Controls will be established and the assessment of risks will be performed con-

tinuously based on an established template with regular follow-up and reporting to the board. The project is expected to be completed in 2018.

### **Control environment**

BioArctic's board adheres to rules of procedure which are adopted annually at the inaugural board meeting. These rules of procedure form the basis for the board's work and for an efficient handling of the risks that relate to the operations. The board annually updates and establishes the rules of procedure for the board, the instructions for the CEO and the authorization order.

The framework for BioArctic's internal control consists of the company's policies. BioArctic's policies and other governing documents are expected to create the basis for good internal control.

### **Information and communication**

Information on BioArctic's governing documents such as policies, guidelines and procedures is given to the persons concerned. All policies and guidelines are updated as needed and reviewed at least annually and are communicated to employees and other persons concerned. Issues related to financial reporting are also discussed at meetings where relevant working groups meet. For external communications BioArctic follows established policies.

### **Follow-up**

Within BioArctic the income statement and balance sheet and selected key ratios are followed-up continuously. In addition to the financial follow-up there is also follow-up of the ongoing research projects, the internal control and a risk assessment. The board is given updates and analyses of the financial outcome.

### **Information to the stock market**

In accordance with the commitments resulting from being a listed company, BioArctic gives the stock market information on the Group's financial position and development. The information is given in the form of interim reports and an annual report published in Swedish and English. In addition to the financial information BioArctic also publishes other information which BioArctic is obligated to disclose in accordance with stock exchange regulations or applicable legislation, press releases concerning news and events relating to the company and the company's operations, and presentations for shareholders, finance analysts and investors in Sweden as well as abroad. Information that constitutes insider information is handled and published according to the rules in EU's market abuse regulation (MAR). The information that is made public is also published on BioArctic's websites [www.bioarctic.se](http://www.bioarctic.se) (in Swedish) and [www.bioarctic.com](http://www.bioarctic.com) (in English).

## **GUIDELINES FOR REMUNERATION TO SENIOR EXECUTIVES**

According to the Swedish Companies Act, the general meeting shall resolve on guidelines for remuneration to the CEO and other senior executives.

Senior executives are those persons who, together with the CEO, form the Group management. Remuneration to senior executives consists of fixed salary, variable remuneration, pensions and other benefits.

At the annual general meeting on May 31, 2017 guidelines for remuneration to senior executives were adopted with the following main content.

The company shall offer company management market level compensation that makes it possible to recruit and retain senior executives. The compensation to company management shall consist of fixed salary, customary employment benefits and pension. Variable remuneration can also be paid.

The fixed salary shall take into account the individual's responsibilities and experience, and be reviewed annually. The division between fixed salary and any variable remuneration shall be proportional to the executive's responsibility and authority. The variable remuneration shall always be limited to a predetermined maximum amount and be linked to predetermined and measurable criteria and designed to achieve greater community of interest between the executive and the company's shareholders. The earning period or alternatively the time from entering into the agreement until a share may be acquired shall not be less than three years in share and share price related incentive programs. The terms for variable remuneration shall be designed so that the board, under particularly difficult economic circumstances, has the possibility to restrict or refuse to give out variable remuneration if this is deemed to be unreasonable and inconsistent with the company's responsibility to the shareholders. For annual variable remuneration, it should be possible to restrict or refuse to pay variable remuneration if the board considers that this is justified for other reasons.

Pension terms shall be in accordance with market practice for corresponding positions and be based on defined contribution solutions. Fixed salary during the period of notice and severance pay shall together not exceed an amount corresponding to the fixed salary for two years. Executives who hold a position as board member or deputy board member in a Group company shall not receive a special board fee for this.

The board is allowed to deviate from these guidelines in individual cases should there be special reasons for doing so.

### **Remuneration to the CEO and other senior executives**

In 2017 BioArctic's CEO Gunilla Osswald received a fixed compensation amounting to SEK 180,000 per month up to June 30 and thereafter SEK 185,400 per month. Gunilla Osswald fur-

thermore has the right to pension provisions corresponding to 35 percent of the fixed compensation.

The CEO is included in the variable remuneration programs covering all employees in the company. In addition the CEO has the right to a non-pensionable variable remuneration amounting to a maximum of 25 percent of the total fixed compensation in 2017. The target achievement for variable remuneration in 2017 amounted to 75 percent.

Between the company and the CEO there is a notice period of 12 months if the company gives notice of termination and 6 months if the CEO gives notice. For other senior executives the notice period is mutually 3 months, alternatively the notice period set out in the Employment Protection Act (LAS). Severance pay is not applied.

### **Incentive programs**

BioArctic has two incentive programs linked to the company's Alzheimer and Parkinson projects, covering all permanent employees (including the CEO). Variable remuneration is paid when the company achieves certain goals linked to the clinical research programs for BAN2401 for Alzheimer's disease and BAN0805 for Parkinson's disease. As the variable remuneration programs are linked to the research programs, the variable remuneration payments may occur irregularly as these goals are reached. Some of these goals are also far in the future. One condition for receiving variable remuneration is that the employee has been permanently employed and that the employment (permanent or other form of employment) has lasted for at least six months at the time when the goal that is the basis for payment of variable remuneration is reached and that the employee has not given notice at the time of the payment. The potential variable remuneration for the employee amounts to one monthly salary. The variable remuneration is not pensionable.

### **Share-based incentive programs and acquisition of shares by board members and senior executives**

The company does not have any outstanding securities-based incentive program or otherwise any outstanding warrants. However, the company has two incentive programs for the employees (including the CEO and senior executives), see above.

In 2017 the main owners Demban AB and Ackelsta AB issued a total of 24,453 call options to certain board members and senior executives in the company, including the CEO, concerning a total of 366,795 of the main owners' B-shares in BioArctic. The CEO's holding at the end of the year amounted to 12,800 B-shares and 5,818 call options entitling to the purchase of 87,270 B-shares. The exercise period (i.e. the period during which the option can be used) runs through June 30, 2020 according to the option agreement. Each call option entitles to

the subscription of 15 B-shares in BioArctic. The exercise price for the call options amounts approx. SEK 26.70 per share. In connection with the issue of the call options the holders have paid an option premium, corresponding to the market value of the options according to the Black & Scholes model, to the main owners.

The call options are freely negotiable. However, under the agreement the main owners have the right to repurchase the call options if the holder terminates his/her employment or assignment in the company during the duration of the call options.

## Consolidated income statement

AMOUNTS IN KSEK	NOTE	2017	2016
Net sales	5	140,706	105,613
Cost of goods sold	7	-266	-238
<b>Gross profit</b>		<b>140,441</b>	<b>105,375</b>
Other operating income	6,11	19,044	39,073
Marketing expenses	7,8,9,11	-1,397	-1,370
Administrative expenses	7,8,9,10,11	-31,522	-14,544
Research and development costs	7,8,9,11	-101,583	-53,665
Other operating expenses	12	-5,689	-238
<b>Operating profit</b>		<b>19,294</b>	<b>74,631</b>
Financial income	13	1,043	8
Financial expenses	13	-647	-503
<b>Profit before tax</b>		<b>19,690</b>	<b>74,136</b>
Income tax	14	-4,534	-16,556
<b>PROFIT FOR THE YEAR</b>		<b>15,157</b>	<b>57,580</b>
Profit for the year attributable to owners of the parent company		15,157	57,580
<b>Earnings per share</b>			
Earnings per share, SEK	15	0,22	0,91

## Consolidated statement of comprehensive income

AMOUNTS IN KSEK	NOTE	2017	2016
Profit for the year		15,157	57,580
Other comprehensive income		-	-
<b>Comprehensive income for the year attributable to owners of the parent company</b>		<b>15,157</b>	<b>57,580</b>

# Consolidated balance sheet

AMOUNTS IN KSEK	NOTE	DECEMBER 31, 2017	DECEMBER 31, 2016
<b>ASSETS</b>			
Tangible assets	16	7,093	5,644
Other non-current financial assets	18	2,675	2,675
Deferred tax asset	14	230	172
<b>Total non-current assets</b>		<b>9,997</b>	<b>8,491</b>
Account receivables	19,20	-	634
Other current receivables	19,21	4,728	1,764
Prepaid expenses and accrued income	22	15,390	4,557
Cash and cash equivalents	19,23	1,110,367	692,530
<b>Total current assets</b>		<b>1,130,486</b>	<b>699,485</b>
<b>TOTAL ASSETS</b>		<b>1,140,483</b>	<b>707,976</b>
<b>EQUITY AND LIABILITIES</b>			
Share capital	24	1,761	105
Reserves <sup>1</sup>		958	958
Other contributed capital <sup>1</sup>		560,018	300
Retained earnings		73,397	59,397
<b>Total equity</b>		<b>636,134</b>	<b>60,760</b>
Deferred tax liabilities	14	5,487	4,136
<b>Total non-current liabilities</b>		<b>5,487</b>	<b>4,136</b>
Account payable	19	7,586	11,736
Current tax liabilities	14	3,310	6,917
Other current liabilities	19	1,263	1,091
Accrued expenses and prepaid income	27	486,702	623,336
<b>Total current liabilities</b>		<b>498,862</b>	<b>643,080</b>
<b>TOTAL EQUITY AND LIABILITIES</b>		<b>1,140,483</b>	<b>707,976</b>

<sup>1)</sup> Adjustment of classification from 2016.

## Consolidated statement of change in equity

AMOUNTS IN KSEK	NOTE	SHARE CAPITAL	RESERVES	OTHER CONTRIBUTED CAPITAL	RETAINED EARNINGS	NON-CONTROLLING INTEREST	TOTAL EQUITY
<b>Opening balance at January 1, 2016</b>		<b>105</b>	<b>0</b>	<b>958</b>	<b>107,217</b>	<b>5</b>	<b>108,285</b>
Adjustment of opening balance <sup>1</sup>		-	958	-658	-300	-	0
<b>Adjusted opening balance at January 1, 2016</b>		<b>105</b>	<b>958</b>	<b>300</b>	<b>106,917</b>	<b>5</b>	<b>108,285</b>
Profit for the year		-	-	-	57,580	-	57,580
Other comprehensive income		-	-	-	-	-	0
<b>Group comprehensive income</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>57,580</b>	<b>0</b>	<b>57,580</b>
Dividend		-	-	-	-105,100	-	-105,100
Change in non-controlling interest		-	-	-	-	-5	-5
<b>Closing balance at December 31, 2016</b>		<b>105</b>	<b>958</b>	<b>300</b>	<b>59,397</b>	<b>0</b>	<b>60,760</b>
<b>Opening balance at January 1, 2017</b>		<b>105</b>	<b>958</b>	<b>300</b>	<b>59,397</b>	<b>0</b>	<b>60,760</b>
Profit for the year		-	-	-	15,157	-	15,157
Other comprehensive income		-	-	-	-	-	0
<b>Group comprehensive income</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>15,157</b>	<b>0</b>	<b>15,157</b>
Bonus issue	24	1,156	-	-	-1,156	-	0
Rights issue	24	500	-	599,500	-	-	600,000
Expenses for right issue		-	-	-39,782	-	-	-39,782
<b>Closing balance at December 31, 2017</b>		<b>1,761</b>	<b>958</b>	<b>560,018</b>	<b>73,397</b>	<b>0</b>	<b>636,134</b>

<sup>1)</sup> Adjustment of classification from 2016.

# Consolidated cash flow statement

AMOUNTS IN KSEK	NOTE	2017	2016
Operating profit		19,294	74,631
Adjustment for non-cash items	29	-143,453	-20,085
Interest received		65	7
Interest paid		-647	-5
Income tax paid		-7,739	-519
<b>Cash flow from operating activities before change in working capital</b>		<b>-132,481</b>	<b>54,029</b>
Increase (-) / Decrease (+) in operating receivables		-13,164	-3,525
Increase (+) / Decrease (+) in operating liabilities		10,318	624,627
<b>Cash flow from operating activities</b>		<b>-135,327</b>	<b>675,131</b>
Acquisition of subsidiaries		-	-5
Investment in tangible assets	16	-3,448	-2,967
Disposal of tangible assets		635	-
<b>Cash flow from investing activities</b>		<b>-2,813</b>	<b>-2,972</b>
Dividend		-	-105,100
Rights issue	24	560,218	-
<b>Cash flow from financing activities</b>		<b>560,218</b>	<b>-105,100</b>
<b>Cash flow for the year</b>		<b>422,078</b>	<b>567,059</b>
Cash and cash equivalents at January 1		692,530	113,831
Exchange rate difference in cash and cash equivalents		-4,241	11,640
<b>Cash and cash equivalents at December 31</b>	23	<b>1,110,367</b>	<b>692,530</b>

## Parent company income statement

AMOUNTS IN KSEK	NOTE	2017	2016
<b>Operating income etc.</b>			
Net sales	5	140,706	105,613
Cost of goods sold	7	-266	-238
<b>Gross profit</b>		<b>140,441</b>	<b>105,375</b>
<b>Operating expenses</b>			
Marketing expenses	7,8,9,11	-1,397	-1,370
Administrative expenses	7,8,9,10,11	-31,521	-14,544
Research and development costs	7,8,9,11	-101,583	-53,665
Other operating income	6,11	19,044	39,073
Other operating expenses	12	-5,689	-238
<b>Operating profit</b>		<b>19,295</b>	<b>74,631</b>
<b>Profit/loss from financial items</b>			
Financial income	13	1,043	8
Financial expenses	13	-647	-503
<b>Profit after financial items</b>		<b>19,691</b>	<b>74,136</b>
<b>Appropriations</b>			
Change in tax allocation reserve		-4,800	-18,800
Change in accelerated depreciation		-1,341	-
<b>Profit before tax</b>		<b>13,550</b>	<b>55,336</b>
Income tax	14	-3,183	-12,420
<b>Profit for the year</b>		<b>10,367</b>	<b>42,916</b>

There are no items in the parent company recognized as other comprehensive income, thus comprehensive income conforms to the result for the year.



# Parent company balance sheet

AMOUNTS IN KSEK	NOTE	DECEMBER 31, 2017	DECEMBER 31, 2016
<b>ASSETS</b>			
<b>Non-current assets</b>			
<b>Tangible assets</b>			
Leasehold improvements	16	947	1,275
Equipment	16	6,146	4,369
		<b>7,093</b>	<b>5,644</b>
<b>Financial assets</b>			
Shares in subsidiaries	17	100	100
Other non-current financial assets	18	2,675	2,675
Deferred tax asset	14	230	172
		<b>3,005</b>	<b>2,947</b>
<b>Total non-current assets</b>		<b>10,097</b>	<b>8,591</b>
<b>Current assets</b>			
<b>Short term receivables</b>			
Account receivables	20	-	634
Other current receivables	21	4,728	1,764
Prepaid expenses and accrued income	22	15,390	4,557
		<b>20,119</b>	<b>6,955</b>
<b>Cash and cash equivalents</b>	23	<b>1,110,269</b>	<b>692,430</b>
<b>Total current assets</b>		<b>1,130,387</b>	<b>699,385</b>
<b>TOTAL ASSETS</b>		<b>1,140,484</b>	<b>707,976</b>

## Parent company balance sheet *cont.*

AMOUNTS IN KSEK	NOTE	DECEMBER 31, 2017	DECEMBER 31, 2016
<b>EQUITY AND LIABILITIES</b>			
<b>Equity</b>			
<b>Restricted equity</b>			
Share capital	24	1,761	105
Statutory reserve		958	958
		<b>2,719</b>	<b>1,063</b>
<b>Non-restricted equity</b>			
Share premium reserve	25	560,018	300
Retained earnings	25	43,577	1,817
Profit for the year	25	10,367	42,916
		<b>613,962</b>	<b>45,033</b>
<b>Total equity</b>		<b>616,682</b>	<b>46,096</b>
<b>Untaxed reserves</b>	26	<b>24,941</b>	<b>18,800</b>
<b>Current liabilities</b>			
Account payable		7,586	11,736
Current tax liabilities	14	3,310	6,917
Other current liabilities		1,263	1,091
Accrued expenses and prepaid income	27	486,702	623,336
<b>Total current liabilities</b>		<b>498,862</b>	<b>643,080</b>
<b>TOTAL EQUITY AND LIABILITIES</b>		<b>1,140,484</b>	<b>707,976</b>

## Parent company statement of change in equity

AMOUNTS IN KSEK	NOTE	RESTRICTED EQUITY		NON-RESTRICTED EQUITY		TOTAL EQUITY
		SHARE CAPITAL	STATUTORY RESERVE	SHARE PREMIUM RESERVE	RETAINED EARNINGS	
<b>Opening balance at January 1, 2016</b>		<b>105</b>	<b>958</b>	<b>300</b>	<b>106,917</b>	<b>108,280</b>
<b>Comprehensive income</b>						
Profit for the year		-	-	-	42,916	42,916
<b>Total comprehensive income</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>42,916</b>	<b>42,916</b>
<b>Transactions with shareholders'</b>						
Dividend		-	-	-	-105,100	-105,100
<b>Total transactions with shareholders'</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>-105,100</b>	<b>-105,100</b>
<b>Closing balance at December 31, 2016</b>		<b>105</b>	<b>958</b>	<b>300</b>	<b>44,733</b>	<b>46,096</b>
<b>Opening balance at January 1, 2017</b>		<b>105</b>	<b>958</b>	<b>300</b>	<b>44,733</b>	<b>46,096</b>
<b>Comprehensive income</b>						
Profit for the year		-	-	-	10,367	10,367
<b>Total comprehensive income</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>10,367</b>	<b>10,367</b>
<b>Transactions with shareholders'</b>						
Bonus issue	24	1,156	-	-	-1,156	0
Rights issue	24	500	-	599,500	-	600,000
Expenses for right issue		-	-	-39,782	-	-39,782
<b>Total transactions with shareholders'</b>		<b>1,656</b>	<b>0</b>	<b>559,718</b>	<b>-1,156</b>	<b>560,218</b>
<b>Closing balance at December 31, 2017</b>		<b>1,761</b>	<b>958</b>	<b>560,018</b>	<b>53,944</b>	<b>616,682</b>

## Parent company cash flow statement

AMOUNTS IN KSEK	NOTE	2017	2016
Operating profit		19,294	74,631
Adjustment for non-cash items	29	-143,453	-20,085
Interest received		65	7
Interest paid		-647	-5
Income tax paid		-7,739	-519
<b>Cash flow from operating activities before change in working capital</b>		<b>-132,481</b>	<b>54,029</b>
Increase (-) / Decrease (+) in operating receivables		-13,164	-3,525
Increase (+) / Decrease (-) in operating liabilities		10,318	624,627
<b>Cash flow from operating activities</b>		<b>-135,327</b>	<b>675,131</b>
Acquisition of subsidiaries		-	-5
Investment in tangible assets	16	-3,448	-2,967
Disposal of tangible assets		635	-
<b>Cash flow from investing activities</b>		<b>-2,813</b>	<b>-2,972</b>
Dividend		-	-105,100
Rights issue	24	560,218	-
<b>Cash flow from financing activities</b>		<b>560,218</b>	<b>-105,100</b>
<b>Cash flow for the year</b>		<b>422,078</b>	<b>567,059</b>
Cash and cash equivalents at January 1		692,430	113,731
Exchange rate difference in cash and cash equivalents		-4,241	11,640
<b>Cash and cash equivalents at December 31</b>	23	<b>1,110,269</b>	<b>692,430</b>

# Notes to the financial statements

## NOTE 1 GENERAL INFORMATION

BioArctic AB (publ), corporate identity number. 556601-2679, is the parent company in a Group focused on diseases in the central nervous system (CNS). The company has leading competence in research and development of innovative biological drugs like antibodies and growth factors that meet great medical needs.

The Group's business is conducted in the parent company. BioArctic is a limited liability company with its registered office at Warfvinges väg 35, SE-112 51 Stockholm, Sweden.

The annual accounts and the consolidated accounts have been approved by the board of directors on April 17, 2018 and are submitted for determination at the annual general meeting on May 15, 2018.

## NOTE 2 SUMMARY OF SIGNIFICANT ACCOUNTING PRINCIPLES

The significant accounting principles applied in preparing these consolidated financial statements are described in the following. Unless otherwise stated, these principles have been applied consistently for all the years presented.

### 2.1 BASIS OF PREPARATION OF FINANCIAL STATEMENTS

The consolidated financial statements have been prepared in accordance with the Annual Accounts Act, RFR 1 Supplementary accounting rules for groups, and International Financial Reporting Standards (IFRS) and IFRIC interpretations as adopted by the EU at December 31, 2017. The income statement is classified according to function.

The Group's financial reports have been prepared based on historical acquisition value, which means that all assets and liabilities are reported at these values and where appropriate certain financial instruments are measured at fair value. The functional currency for the parent company, including all its subsidiaries, and the Group's reporting currency is Swedish kronor (SEK). All amounts are given in thousands of Swedish kronor (kSEK) unless otherwise stated. Amount in brackets refer to the previous year. Negative numbers are either expenses or payments (cash flow).

Preparing financial statements according to IFRS requires the use of some critical accounting estimates. Further, it is required that the board and management make some assessments in the application of the company's accounting principles. The areas that involve a high degree of assessments, that are complex, or areas where assumptions and estimates are of major importance for the consolidated financial statements are described in Note 4.

### 2.2 NEW ACCOUNTING PRINCIPLES

No standards, changes or interpretations that became effective for financial years starting January 1, 2017 have any significant impact on the Group's financial reports.

### 2.3 NEW IFRIS STANDARDS FROM 2018 AND LATER

A number of new standards and changes to interpretations and existing standards that come into effect for financial years starting after January 1, 2018 which have not been applied in the preparation of the Group's financial reports.

#### *IFRS 9 Financial instruments*

The standard replaces IAS 39 Financial instruments: Recognition and measurement. IFRS 9 is effective for financial years beginning on January 1, 2018 or later. BioArctic has chosen not to apply the standard prematurely. BioArctic in principle always receives payments from contracts with customers in advance. Thus, no bad debt loss occurs. The Group has thus not identified any reporting differences in connection with the application of IFRS 9.

#### *IFRS 15 Revenue from contracts with customers*

The standard regulates how revenue should be recognized. IFRS 15 replaces IAS 18 Revenue and IAS 11 Construction contracts and related SIC and IFRIC. IFRS 15 is effective for financial years starting on January 1, 2018 or later. BioArctic has chosen not to apply the standard in advance.

Most of BioArctic's revenue from contracts with customers consists of research collaborations and milestone payments. According to current rules these are reported based on the degree of completion.

This reporting of revenue coincides with revenue recognition over time according to IFRS 15.

In exceptional cases BioArctic also receives one-time payments from customers, which are then recognized when the right to compensation has been established. This time corresponds to the time when performance commitments are met according to IFRS 15. The Group has thus not identified any reporting differences in connection with the application of IFRS 15 except for increased disclosure requirements.

#### *IFRS 16 Leases*

IFRS 16 replaces IAS 17 Leasing agreements and the related interpretations IFRIC 4, SIC-15 and SIC-27. The standard requires that assets and liabilities relating to all leasing agreements, with a few exceptions, are recognized in the balance sheet. This reporting is based on the view that an asset is used during a specific time period and that an obligation to pay for this right occurs at the same time. The standard is applicable for financial years starting at January 1, 2019 or later. BioArctic has chosen not to apply the standard in advance. Assessment of the effects is in progress.

## 2.4 CONSOLIDATED FINANCIAL STATEMENT

Subsidiaries are all companies over which the Group exercises a controlling interest. The Group controls a company when it is exposed to or has the right to a variable return on its interest in the company and is able to influence the return through its interest in the company. Subsidiaries are included in the consolidated financial statements as of the date on which the controlling interest is transferred to the Group. They are excluded from the consolidated financial statements as of the date on which the controlling interest ceases to exist.

Acquisition accounting is used to report the Group's business acquisitions. The purchase sum for the acquisition of a subsidiary consists of the fair value of the transferred assets, liabilities that the Group incurs to previous owners of the acquired company, and the shares issued by the Group. The purchase sum also includes the fair value of all assets and liabilities resulting from an agreement on conditional consideration. Identifiable assets acquired and liabilities assumed in a business acquisition are initially measured at their fair values at the acquisition date.

Intercompany transactions, balances, income and expenses from transactions between Group companies are eliminated. Gains and losses resulting from intercompany transactions which have been recognized in assets are also eliminated. Where applicable the accounting principles for subsidiaries have been amended to guarantee a consistent application of the Group's principles.

## 2.5 SEGMENT REPORTING

An operating segment is a part of the Group that conducts operations from which it can generate income and incur costs and for which independent financial information is available.

The highest executive decision-maker in the Group follows up the operations on aggregated level, which means that the operations constitute one and the same segment and thus no separate segment information is presented.

The board of directors is identified as the highest executive decision maker in the Group.

## 2.6 TRANSLATION OF FOREIGN CURRENCY

### 2.6.1 Functional currency and reporting currency

Items included in the financial statements for the different units in the Group are measured using the currency in the financial environment in which the unit mainly operates (functional currency). In the consolidated financial statements Swedish kronor (SEK) is used, as this is the parent company's functional currency and the reporting currency.

### 2.6.2 Transactions and balances

Transactions in foreign currency are translated to functional currency at transaction date exchange rates or at the date of revaluation. Foreign exchange gains and losses arising from the payment

of such transactions and at the recalculation of monetary assets and liabilities in foreign currency at the transaction date exchange rate are reported in the income statement.

## 2.7 INCOME AND PUBLIC FUNDING

Revenue is measured at the fair value of what has been received or will be received and corresponds to the amounts received for goods or services sold after deduction of discounts and VAT. The Group reports a revenue when its amount can be measured reliably and it is likely that future economic benefits will accrue to the Group and specific criteria have been met for each of the Group's operations as described below.

### 2.7.1 License and collaboration agreements

Revenue from agreements entered into with customers in research projects is reported based on the economic substance of the agreement. Revenue from license and collaboration agreements can consist of one-time payments, royalty and milestone payments, and remuneration for research services and products. In addition, BioArctic may under the agreement have the right to obtain compensation for costs incurred.

#### *Research collaborations (remuneration under research agreements)*

The reporting of revenue reflects accrual according to the specific terms of agreement and is applied to each transaction separately. Revenue is accrued over the term of the agreement based on the degree of completion and costs incurred. The degree of completion of the research collaboration is continuously evaluated based on status and remaining costs.

#### *Milestone payments*

Payments for milestones achieved are reported as revenue when it is likely that the economic benefits associated with the transaction will accrue to BioArctic and the revenue can be calculated in a satisfactory way. Related payments are obtained when the Group has achieved established goals under the agreement.

#### *Compensation for costs incurred and sales of products*

Compensation for costs incurred, i.e. costs that are re-invoiced to the customer, are reported in the period when they are incurred. The principles for income reporting of public funding are described in Note 2.7.2. Other operating income includes compensation for costs incurred. At the sale of products revenue is reported at delivery, as the ownership and economic risk passes to the customer at this time.

#### *One-time and license payments*

One-time payments at the entering into an agreement normally come without repayment obligation. They normally concern the right to develop, register, market and sell BioArctic's proprietary

products in a defined geographic area and for a defined indication. One-time payments can also be remuneration for technology or knowledge transfer to the partner or remuneration for the option on a future license. In cases when one-time payments relate to more than one delivery the revenue is distributed according to the value of each partial delivery.

#### *Royalty payments*

Royalty income normally accrues continuously as distributors report sales, the reporting is made in the same period as the sales.

### **2.7.2 Public funding**

Revenue in the form of public funding is reported as other operating income

#### *Public funding*

Income from public funding is reported as revenue when it is reasonably likely that the Group will meet the terms associated with the funding and that the public funding will be received. Funds received before the requirements for reporting them as revenue have been met are reported as liability.

#### *Joint agreements*

BioArctic has received public funding for one joint agreement, the EU's Horizon 2020, where BioArctic is the coordinator. In the income statement the Group has reported its share of revenue under this agreement. The part of the public funding received for Horizon 2020 that shall be forwarded to other legal persons is reported as liability until payment is made.

### **2.7.3 Other operating income**

In addition to the public funding described in Note 2.7.2 the Group also has other operating income in the form of subleasing of premises, foreign exchange gains and gain on disposal of tangible fixed assets.

## **2.8 COSTS AND FINANCIAL ITEMS**

### **2.8.1 Cost of goods sold**

Cost of goods sold is reported as cost of materials for the products sold by BioArctic.

### **2.8.2 Function costs**

Common costs such as rent and other operating expenses are allocated to the respective function based on the number of employees in each function. Otherwise the costs are reported directly according to function. Amortization is reported under the function to which the asset has been reported, or alternatively is allocated in the same way as other common costs, based on the number of employees.

### *Marketing and sales costs*

Personnel costs and operating costs concerning business development and commercialization of research projects and sales to collaboration partners have been reported to this function.

### *Administration costs*

Personnel costs and operating costs concerning the company's administration, including costs for the CEO, the finance function, the board of directors, lawyers, accounting, accountants, etc have been reported to this function.

### *Research and development costs*

This function consists of BioArctic's research and drug development in preclinical and clinical studies, and regulatory activities. To this function all personnel costs and external costs have been reported that are directly attributable to these operations and activities. Costs attributable to development projects can be reported as intangible assets when all the following criteria are met:

1. It is technically possible for the company to finalize the intangible asset so that it can be used or sold.
2. The company intends to finalize the intangible asset and use it or sell it.
3. The company has the potential to use or sell the intangible asset.
4. The company can demonstrate how the intangible asset will generate probable economic benefits.
5. There are adequate technical, financial and other resources to complete the development and to use or sell the intangible asset.
6. The company is able to reliably calculate the expenditure attributable to the intangible asset during its development.

Development costs that are expensed cannot be reported as assets in coming periods. BioArctic has no expenses that meet all the criteria and all research and development costs have therefore been expensed.

### **2.8.3 Remuneration to employees**

#### *Remuneration under agreement*

BioArctic has a rewards program covering all permanent employees consisting of a variable part in addition to the fixed remuneration which can be paid when objectives have been achieved. See further information under Note 9. The variable remuneration is not pensionable. BioArctic has no agreements including post-employment benefits.

#### *Defined contribution pension plans*

The Group's pension plans are defined contribution plans and concern the contributions the company pays to the plan or an insurance company and the capital return that the contributions give. Consequently, it is the employee who carries the actuarial risk (that the remuneration is lower than expected) and investment risk

(that the invested assets will be insufficient to give the expected remunerations). The Group has no defined benefit pension plans.

#### **2.8.4 Leasing**

Leasing agreements are classified at the closing of the agreement either as financial or operational leasing. The Group only has operational leasing agreements. These lease payments are expensed on a straight-line basis over the lease term. Associated costs, such as maintenance and insurance, are expensed as incurred.

#### **2.8.5 Financial income**

Financial income refers to interest on bank deposits and receivables and in applicable cases dividend income, interest subsidies and positive exchange rate differences on financial items. Financial income is reported in the period to which they relate.

#### **2.8.6 Financial expenses**

Financial expenses refer to interest and other expenses that are incurred in connection with borrowings and reported in the income statement in the period to which they relate. Also negative exchange rate differences on financial items and negative interest on cash and cash equivalents are included in financial expenses.

#### **2.8.7 Taxes**

The tax expense for the period comprises current and deferred tax. Taxes are reported in the income statement, except when the underlying transaction is reported in other comprehensive income or directly against equity, then the related tax effect is also reported under this item.

Current tax is the tax calculated based on the taxable result for the period. The taxable result differs from the reported result in that it has been adjusted for non-taxable and non-deductible items. Current tax is the tax to be paid or received for the current year, possibly adjusted for current tax relating to previous periods.

In the balance sheet withheld foreign tax is reported to the extent that is expected to be offset against Swedish corporation tax. The foreign tax in the balance sheet 2016 has been offset during the year and no foreign tax remains to be offset at December 31, 2017.

Deferred tax is reported using the balance sheet method, which means that deferred tax liabilities are recognized in the balance sheet for all temporary differences arising between the book value and the written-down value of assets and liabilities. If the temporary difference arises on initial recognition of assets and liabilities that constitute an asset acquisition, deferred tax is not recognized, however. Deferred tax assets relating to deductible temporary differences and loss carry-forwards are recognized only when it is likely that the amounts can be used against future taxable profit. Deferred tax is calculated according to the statutory tax rates decided or announced at the balance sheet day and

are expected to be in effect when the deferred tax asset is realized or the deferred tax liability is settled.

### **2.9 RESEARCH AND DEVELOPMENT / INTANGIBLE ASSETS**

An intangible asset is recognized in the balance sheet when it is likely that the economic benefits associated with the transaction will accrue to the Group and the value of the asset can be calculated reliably. Development costs are capitalized and recognized in the balance sheet as intangible assets if the criteria for recognition in the balance sheet according to IAS 38 Intangible assets are met. The Group has no expenditures that meet these criteria.

### **2.10 TANGIBLE FIXED ASSETS**

Tangible fixed assets are reported at acquisition value less accumulated depreciation and write-down. The acquisition value includes expenditures directly attributable to the acquisition of the asset. Subsequent expenditure is added to the reported value of the asset or reported as a separate asset only when it is likely that the economic benefits associated with the transaction will accrue to the Group and the acquisition value of the asset can be calculated reliably. The useful life has been assessed to be five years for equipment and machinery. Improvement expenditures for leaseholds are written-off based on estimated usage time.

### **2.11 FINANCIAL INSTRUMENTS**

A financial instrument is any contract that gives rise to a financial asset or financial liability. Financial assets in the balance sheet refer to other financial assets, accounts receivable, other receivables, and cash and cash equivalents. Financial liabilities relate to accounts payable and other current liabilities. The Group holds no derivatives. Reporting of financial instruments in the balance sheet occurs when the company becomes a party to the contractual conditions of the instrument. An asset is removed from the balance sheet when the contractual obligation is met, expires, or when the company loses control over it. A liability is removed from the balance sheet when the contractual obligation is met or otherwise ended. At each balance sheet date, the company assesses whether there are objective indications that a financial asset or group of financial assets is in need of write-down due to past events. For all financial assets and liabilities the reported amount is considered to be a good approximation of fair value.

Financial assets and liabilities are offset and the net amount reported in the balance sheet only when there is a legal right to set off the reported amounts and an intention to regulate them with a net amount or at the same time realize the asset and settle the liability.

### **2.12 ACCOUNTS RECEIVABLE**

Accounts receivable are reported net after provision for doubtful debts. The expected life of the accounts receivable is short, there-



fore the value is reported at nominal amount without discounting according to the method of amortized cost. A provision for doubtful debts concerning trade receivables is made when there are objective grounds for assuming that the Group will not be able to receive all amounts that are overdue according to the original terms of the receivables. The size of the provision is the difference between the reported value of the asset and the value of estimated future cash flows. The reserved amount is recognized in the income statement.

### 2.13 CASH AND CASH EQUIVALENTS

Cash and cash equivalents include cash, bank deposits and, where appropriate, other short-term investments with maturity date within three months. Cash and cash equivalents are reported at their nominal amounts.

### 2.14 ACCOUNTS PAYABLE

Accounts payable are obligations to pay for goods or services that have been acquired in the operating activities from suppliers. Accounts payable are categorized as other financial liabilities. As accounts payable are expected to have a short life the value is reported at nominal amount.

### 2.15 EQUITY

Transaction costs directly attributable to the issue of new shares or options are reported, net after tax, in equity as a deduction from the issue proceeds.

Share premium reserve is recognized as other contributed capital and reserve fund is reported as reserves.

### 2.16 CASH FLOW STATEMENT

Cash flow statements are prepared according to the indirect method. This means that the result is adjusted with transactions that do not involve receipts or payments, and for income and expenses relating to investing and/or financing activities.

### 2.17 THE PARENT COMPANY'S ACCOUNTING PRINCIPLES

The parent company follows the Swedish Accounting Act and The Swedish Financial Reporting Board's recommendation RFR 2 Reporting for Legal Entities. The application of RFR 2 means that the parent company in the annual report for the legal entity applies all International Financial Reporting Standards and statements approved by the EU, as far as this is possible with regard to the Swedish Accounting Act, the Pension Obligations Vesting Act and with consideration to the relationship between reporting and taxation. The recommendation specifies which exceptions and additions to IFRS that shall be made.

The parent company thus applies the principles presented in Note 2 in the consolidated financial statements, with the exceptions specified below. The principles have been applied consistent-

ly for all years presented, unless otherwise stated. Assets, provisions and liabilities have been valued at their acquisition value unless otherwise specified below.

#### 2.17.1 Formats

The income statement and balance sheet have the format defined in the Swedish Accounting Act. This means some differences compared to the consolidated financial statements, the subitems in equity are for example different.

#### 2.17.2 Shares and participations in Group companies

Shares and participations in Group companies are reported at acquisition value after deduction of any impairment losses.

#### 2.17.3 Deferred income tax

Amounts allocated to untaxed reserves constitute taxable temporary differences. However, due to the connection between accounting and taxation in a legal entity the deferred tax liability in untaxed reserves is reported as a part of the untaxed reserves. Also, the appropriations in the income statement are reported including deferred tax.

## NOTE 3 FINANCIAL RISK MANAGEMENT

### 3.1 FINANCIAL RISK FACTORS

Through its operations the Group is exposed to various types of financial risk. The overall objective of the financial risk management is to minimize the risks for negative impact on the Group's result.

#### 3.1.1 Currency risk

Currency risk is the risk for impact on the Group's result and financial position as a result of changes in exchange rates. The Group has no loans in foreign currency and is therefore not exposed to any currency risk associated with borrowing. Purchases and revenue in foreign currency give rise to transaction exposure. Purchases in foreign currency are primarily made in EUR, USD, GBP and CHF. In 2017 purchases amounted to kEUR 576 (576), kUSD 2,399 (551), kGBP 561 (521) and kCHF 684 (0). There are cash and cash equivalents in foreign currency in GBP, USD, EUR and CHF. Cash and cash equivalents in foreign currency amount to kSEK 206,054 (292,013). Of this sum GBP accounts for kSEK 152,434 (209,445), USD for kSEK 5,897 (53,052), EUR for kSEK 27,981 (29,516) and CHF for kSEK 19,743 (0). A currency change of 10% of the GBP, USD, EUR and CHF against the Swedish krona would thus impact the result as shown on the following page.

CURRENCY	AMOUNT IN KSEK PER DECEMBER 31, 2017		BEFORE TAX	AFTER TAX
		+/-		
GBP	152,434	+/-	15,243	11,890
USD	5,897	+/-	590	460
EUR	27,981	+/-	2,798	2,182
CHF	19,743	+/-	1,974	1,540
<b>Total</b>	<b>206,054</b>	<b>+/-</b>	<b>20,605</b>	<b>16,072</b>

On December 31, 2017 there are no significant balance sheet items in foreign currency in addition to cash and cash equivalents.

### 3.1.2 Interest rate risk

The Group has significant bank balances which are affected by interest rates. Thus, the Group is exposed to an interest rate risk. On December 31, 2017 the Group has cash and cash equivalents amounting to kSEK 1,110,367 (692,530). An interest rate change of 0.5 percent would mean an annual impact on the result to the amount of kSEK 5,552 before tax and kSEK 4,330 after tax. On December 31, 2017 the Group has no external loan financing and is thus not exposed to any interest risk for such commitments.

### 3.1.3 Financing risk

Access to capital is influenced by several factors, the development of current research and development projects and collaboration and license agreements, among others. The timing and size of additional funding is dependent on this, but also on whether the Group manages to enter into new collaboration agreements and on the market's acceptance of products. The overall availability of credit and BioArctic's credit rating also affects the financial risk.

### 3.1.4 Liquidity risk

The liquidity risk, i.e. ensuring that the Group has sufficient cash to meet the demands of the operating activities, is assessed as low as the Group has a good supply of cash and cash equivalents. The Group management actively follows the liquidity situation for timely attention to liquidity risks. The Group has no placements in addition to bank balances and the Group wants to minimize the risk exposure on cash and cash equivalents and financial assets.

### 3.1.5 Credit risk

Credit risk arises through cash and cash equivalents and deposits with banks and credit institutions, and through credit exposure to customers, including outstanding receivables and agreed transactions. The Group has large amounts of cash at the Group's banks. The Group considers the banks to be reliable. The Group is dependent on a few major partners and it is of the utmost importance that they fulfil their commitments under the agreements.

## 3.2 OPERATIONAL AND EXTERNAL RISKS

See the section Risks and uncertainties in the Board of directors' report for a description of the major operational and external risks. These risks relate to the market, projects and products, decisions by authorities, competition and commercial success, research and development, product liability and insurance, production, intellectual property rights, collaboration agreements, clinical trials, safety and efficacy criteria and dependence on key personnel.

## 3.3 SENSITIVITY ANALYSIS

No further analysis has been established in addition to the sensitivity analyses mentioned above.

## 3.4 MANAGEMENT OF CAPITAL

The Group's goal concerning the capital structure is to secure the Group's continued operations and business, so that it can continue to generate a return for the shareholders and benefits for other stakeholders. An optimal capital structure keeps the costs for capital down. In order to maintain and adjust the capital structure the Group can issue new shares. In the Group this capital has been defined as equity.

### NOTE 4

### SIGNIFICANT ACCOUNTING ESTIMATES AND JUDGEMENTS

In order to prepare financial statements in accordance with IFRS the Group management and the board must make estimates and assumptions. These impact the reported assets, liabilities, income and costs and other information given. The judgements are based on experience and assumptions that the management and the board find to be reasonable during the present circumstances. The actual results can then differ from these judgements if other circumstances arise. In the following the most significant judgements made in the preparation of the Group's and parent company's financial statements are described.

#### *Revenue from research collaborations and milestone payments*

Both of these types of revenue mean that BioArctic under agreements shall achieve a number of results that are eligible for compensation. The reporting of revenue is thus today based on the stage of completion and the costs incurred and the revenue is allocated accordingly. These operations can change as some operations may be terminated while others in exceptional cases may need to be added or redone. This can lead to adjustments of the revenue. In 2017 a new assessment was made which meant that some operations were terminated why income and the remaining profit from the project increased after the assessment. For the research collaboration agreement with AbbVie MSEK 473.1 remains to recognize up to December 31, 2019.

The Group makes a review of all projects on a quarterly basis to ensure that the revenue is based on the projects' current status and the remaining costs.

## NOTE 5 NET SALES

### GEOGRAPHIC BREAKDOWN OF NET SALES

AMOUNTS IN KSEK	GROUP		PARENT COMPANY	
	2017	2016	2017	2016
Europe	135,494	93,097	135,494	93,097
Other	5,212	12,516	5,212	12,516
<b>Total net sales</b>	<b>140,706</b>	<b>105,613</b>	<b>140,706</b>	<b>105,613</b>

### NET SALES PER REVENUE TYPE

AMOUNTS IN KSEK	GROUP		PARENT COMPANY	
	2017	2016	2017	2016
One-time payments	-	70,400	-	70,400
Milestone payments	-	8,169	-	8,169
Income from research collaborations	140,275	26,676	140,275	26,676
Other items	431	368	431	368
<b>Total net sales</b>	<b>140,706</b>	<b>105,613</b>	<b>140,706</b>	<b>105,613</b>

In financial year 2017 one single customer accounted for more than 10% of the turnover. In 2016 two single customers accounted for more than 10% of the turnover.

## NOTE 6 OTHER OPERATING INCOME

AMOUNTS IN KSEK	GROUP		PARENT COMPANY	
	2017	2016	2017	2016
Rental income	678	2,082	678	2,082
Operating foreign exchange gains	324	12,186	324	12,186
EU grants	14,534	21,090	14,534	21,090
Public grants	1,585	3,715	1,585	3,715
Gain from disposal of tangible assets	635	-	635	-
Other items	1,288	-	1,288	-
<b>Total other operating income</b>	<b>19,044</b>	<b>39,073</b>	<b>19,044</b>	<b>39,073</b>

**NOTE 7 COSTS PER COST TYPE**

AMOUNTS IN KSEK	GROUP		PARENT COMPANY	
	2017	2016	2017	2016
Project related costs	63,641	22,887	63,641	22,887
Other external expenses	36,197	15,389	36,196	15,389
Personnel expenses	32,936	29,985	32,936	29,985
Depreciations of tangible assets	1,993	1,556	1,993	1,556
<b>Total costs per cost type</b>	<b>134,768</b>	<b>69,817</b>	<b>134,767</b>	<b>69,817</b>

**NOTE 8 DEPRECIATIONS OF TANGIBLE ASSETS**

DEPRECIATIONS OF TANGIBLE ASSETS PER FUNCTION	GROUP		PARENT COMPANY	
	2017	2016	2017	2016
Marketing expenses	15	18	15	18
Administrative expenses	60	37	60	37
Research and development costs	1,919	1,501	1,919	1,501
<b>Total depreciations of tangible assets per function</b>	<b>1,993</b>	<b>1,556</b>	<b>1,993</b>	<b>1,556</b>

**NOTE 9 PERSONNEL**

AVERAGE NUMBER OF EMPLOYEES	GROUP		PARENT COMPANY	
	2017	2016	2017	2016
Women	15	14	15	14
Men	11	8	11	8
<b>Total</b>	<b>26</b>	<b>22</b>	<b>26</b>	<b>22</b>

BOARD OF DIRECTORS, CEO AND OTHER SENIOR EXECUTIVES	2017		2016	
	BALANCE SHEET DATE	WHEREOF WOMEN	BALANCE SHEET DATE	WHEREOF WOMEN
<b>BioArctic AB</b>				
Board of directors	6	1	6	1
CEO and other senior executives	8	3	7	2

SALARIES, REMUNERATION AND SOCIAL COSTS	GROUP		PARENT COMPANY	
	2017	2016	2017	2016
<b>AMOUNTS IN KSEK</b>				
<b>Salaries and remuneration</b>				
Board of directors, CEO and other senior executives	12,504	13,397	12,504	13,397
(whereof variable)	(547)	(3,496)	(547)	(3,496)
Other employees	10,483	7,403	10,483	7,403
<b>Total salaries and remuneration</b>	<b>22,987</b>	<b>20,800</b>	<b>22,987</b>	<b>20,800</b>
Social costs	5,834	5,553	5,834	5,553
Pension cost	3,678	2,812	3,678	2,812
(whereof board of directors, CEO and other senior executives)	(2,510)	(2,274)	(2,510)	(2,274)
<b>Total salaries, remuneration and social costs</b>	<b>32,499</b>	<b>29,165</b>	<b>32,499</b>	<b>29,165</b>

The company has no outstanding pension obligations.

#### REMUNERATION AND OTHER BENEFITS DURING 2017

AMOUNTS IN KSEK	BASE SALARY/ FEE	VARIABLE REMUNERATION	PENSION	TOTAL
<b>Board of directors</b>				
Wenche Rolfsen (chairman of the board) <sup>1,5</sup>	279	-	-	279
Lars Lannfelt <sup>2</sup>	1,552	-	214	1,765
Pär Gellerfors <sup>3</sup>	1,620	-	356	1,976
Eugen Steiner <sup>4</sup>	150	-	-	150
Ivar Verner <sup>5</sup>	173	-	-	173
Hans Ekelund <sup>5</sup>	175	-	-	175
Mikael Smedeby <sup>5,6</sup>	131	-	-	131
<b>Senior executives</b>				
CEO Gunilla Osswald	2,223	417	841	3,482
Other senior executives (7 persons) <sup>3,7</sup>	9,253	130	1,099	10,482
<b>Total remuneration and other benefits</b>	<b>15,555</b>	<b>547</b>	<b>2,510</b>	<b>18,613</b>

<sup>1)</sup> Wenche Rolfsen is chairman of the board since September 4, 2017.

<sup>2)</sup> Lars Lannfelt is active in the company at a service level of 40% since September 2017.

<sup>3)</sup> Pär Gellerfors is employed by the company. He is adjunct to the management team, but he is reported in the table above only in the board.

<sup>4)</sup> Eugen Steiner is a board member since September 4, 2017.

<sup>5)</sup> The board fee including social costs invoiced via company.

<sup>6)</sup> Mikael Smedeby left the board in June 2017.

<sup>7)</sup> This amount includes invoiced fees to the amount of kSEK 3,661.

**NOTE 9 PERSONNEL cont.**

**REMUNERATION AND OTHER BENEFITS DURING 2016**

AMOUNTS IN KSEK	BASE SALARY/ FEE	VARIABLE REMUNERATION	PENSION	TOTAL
<b>Board of directors</b>				
Wenche Rolfsen	66	-	-	66
Lars Lannfelt	886	-	187	1,073
Pär Gellerfors	1,620	-	356	1,976
Ivar Verner	99	-	-	99
Hans Ekelund	116	-	-	116
Mikael Smedeby	112	-	-	112
<b>Senior executives</b>				
CEO Gunilla Osswald	2,365	2,640	938	5,943
Other senior executives (6 persons)	6,665	856	793	8,314
<b>Total remuneration and other benefits</b>	<b>11,929</b>	<b>3,496</b>	<b>2,274</b>	<b>17,699</b>

President and CEO Gunilla Osswald received remuneration amounting to SEK 2,223,154 as fixed annual salary and in addition 35% in pension provision. The CEO is covered by the incentive program covering all employees, see below. In 2017 the CEO had variable compensation up to 25% of the annual salary. Between the company and the CEO there is a termination period of 12 months by the company and 6 months by the CEO. Upon termination by the company there is no work obligation during the notice period, but the CEO should be available to the company as needed.

Group management consists of 9 persons, including the CEO and one board director. Senior executives except for the CEO receive normal market remuneration and individually negotiated premiums for occupational pension, or premiums under the terms of the company's pension policy. All other employees receive market salaries and premiums are allocated to the occupational pension in accordance with the terms of the company's pension policy. All employees have a contractual mutual termination pe-

riod of three months, or according to the employment protection act. Severance pay is not applied. To the board members who are not employees of the company fees have been paid pursuant to the annual general meeting's decision.

BioArctic has two incentive programs, covering all permanent employees. One condition for receiving variable remuneration is that the employee has been employed for at least six months at the time when the goal is achieved that is the basis for payment of variable remuneration. The goals are linked to achieved milestone goals in the clinical research programs for the drug candidate BAN2401 for Alzheimer's disease and BAN0805 for Parkinson's disease. The potential variable remuneration for the employee amounts to one monthly salary per milestone goal. The variable remuneration is not pensionable. For 2017 has, in addition to variable remuneration to the CEO, variable remuneration been paid to one employee with one month salary.

## NOTE 10 REMUNERATION TO AUDITORS

AMOUNTS IN KSEK	GROUP		PARENT COMPANY	
	2017	2016	2017	2016
<b>Grant Thornton</b>				
Audit engagement	521	156	521	156
Audit services in addition to audit engagement	1,232	-	1,232	-
Tax advisory service	83	48	83	48
Other services	359	184	359	184
<b>Total remuneration to auditors</b>	<b>2,195</b>	<b>388</b>	<b>2,195</b>	<b>388</b>

Audit assignments include the auditing of the annual accounts, the accounting records and the board's and the CEO's management, other tasks that are incumbent on auditors to perform, as well as advice or other assistance arising from observations made during such auditing or the performance of such other tasks. Audit related

tasks in addition to the audit assignment are mainly related to the Group's listing on Nasdaq Stockholm.

Tax advice includes advice on income taxation.

Other services are advice not attributable to any of the above categories of service.

## NOTE 11 COMMITMENTS

### Leasing

The Group leases office premises under non-cancellable operational leases where the remaining leasing period is 1 year (2).

COSTS FOR MINIMUM LEASE PAYMENTS	GROUP		PARENT COMPANY	
	2017	2016	2017	2016
AMOUNTS IN KSEK				
Leasing fee for premises	6,456	6,216	6,456	6,216
<b>Total</b>	<b>6,456</b>	<b>6,216</b>	<b>6,456</b>	<b>6,216</b>

### FUTURE LEASE PAYMENTS CONCERNING NON-CANCELLABLE LEASES

AMOUNTS IN KSEK	GROUP		PARENT COMPANY	
	2017	2016	2017	2016
Within 1 year	6,425	6,390	6,425	6,390
Between 1 and 5 years	-	6,390	-	6,390
More than 5 years	-	-	-	-
<b>Total</b>	<b>6,425</b>	<b>12,780</b>	<b>6,425</b>	<b>12,780</b>

**NOTE 11**    **COMMITMENTS cont.****Subleasing**

The previous subleasing of office space by the Group expired during the year.

**FUTURE LEASE PAYMENTS EXPECTED TO BE OBTAINED FOR NON-CANCELLABLE SUBLEASES**

AMOUNTS IN KSEK	GROUP		PARENT COMPANY	
	2017	2016	2017	2016
Within 1 year	-	1,972	-	1,972
Between 1 and 5 years	-	-	-	-
More than 5 years	-	-	-	-
<b>Total</b>	<b>0</b>	<b>1,972</b>	<b>0</b>	<b>1,972</b>

**Other commitments**

BioArctic has committed to conduct research activities to achieve predefined milestones. For BioArctic's commitment advance payment amounting to approx. MSEK 702 has been received. At the

closing date revenue amounting to approx. MSEK 473 remains to be recognized. The costs for meeting the commitment are estimated to an amount lower than this remaining revenue.

**NOTE 12**    **OTHER OPERATING EXPENSES**

AMOUNTS IN KSEK	GROUP		PARENT COMPANY	
	2017	2016	2017	2016
Loss from disposal of tangible assets	6	-	6	-
Operating foreign exchange losses	5,683	238	5,683	238
<b>Total other operating expenses</b>	<b>5,689</b>	<b>238</b>	<b>5,689</b>	<b>238</b>



**NOTE 13 FINANCIAL INCOME AND EXPENSES**

AMOUNTS IN KSEK	GROUP		PARENT COMPANY	
	2017	2016	2017	2016
Interest income	65	8	65	8
Foreign exchange gains	979	-	979	-
<b>Total financial income</b>	<b>1,043</b>	<b>8</b>	<b>1,043</b>	<b>8</b>
Interest expenses	-647	-5	-647	-5
Foreign exchange losses	-	-498	-	-498
<b>Total financial expenses</b>	<b>-647</b>	<b>-503</b>	<b>-647</b>	<b>-503</b>
<b>Total financial income and expenses</b>	<b>396</b>	<b>-495</b>	<b>396</b>	<b>-495</b>

**NOTE 14 TAX**

AMOUNTS IN KSEK	GROUP		PARENT COMPANY	
	2017	2016	2017	2016
Current tax	-3,240	-12,441	-3,240	-12,441
Tax adjustment from prior years	-	-63	-	-63
Deferred taxes	-1,294	-4,052	57	84
<b>Total tax on profit for the year</b>	<b>-4,534</b>	<b>-16,556</b>	<b>-3,183</b>	<b>-12,420</b>

**Reconciliation of effective tax**

In the table below reported tax is reconciled to tax based on the Swedish tax rate of 22%.

RECONCILIATION OF TAX	GROUP		PARENT COMPANY	
	2017	2016	2017	2016
Profit before tax	19,690	74,136	13,550	55,336
Tax multiplied by nominal tax rate, 22%	-4,332	-16,310	-2,981	-12,174
Non-deductible expenses	-187	-183	-187	-183
Non-taxable income	0	0	0	0
Standard income on tax allocation reserve	-15	-	-15	-
Tax adjustment from prior years	-	-63	-	-63
<b>Total tax</b>	<b>-4,534</b>	<b>-16,556</b>	<b>-3,183</b>	<b>-12,420</b>
Effective tax, %	23.0%	22.3%	23.5%	22.4%

**NOTE 14 TAX cont.**

CURRENT TAX LIABILITIES	GROUP		PARENT COMPANY		
	AMOUNTS IN KSEK	DECEMBER 31, 2017	DECEMBER 31, 2016	DECEMBER 31, 2017	DECEMBER 31, 2016
Current tax liabilities		3,310	12,524	3,310	12,524
Withheld foreign tax		-	-5,607	-	-5,607
<b>Total current tax liabilities</b>		<b>3,310</b>	<b>6,917</b>	<b>3,310</b>	<b>6,917</b>

Withheld foreign tax has been deducted from current tax liabilities as the Swedish Tax Agency has agreed to deduct this is the annual tax statement for the income year 2016.

**Deferred tax**

Deferred tax is made up of tax items that will be regulated in the future. The table below specifies deferred tax assets and liabilities with respect to temporary differences between the book value and tax base of assets and liabilities.

AMOUNTS IN KSEK	GROUP		PARENT COMPANY	
	DECEMBER 31, 2017	DECEMBER 31, 2016	DECEMBER 31, 2017	DECEMBER 31, 2016
Leasehold improvements	230	172	230	172
<b>Total deferred tax asset</b>	<b>230</b>	<b>172</b>	<b>230</b>	<b>172</b>
Tax allocation reserve	-5,192	-4,136	-	-
Accelerated depreciation	-295	-	-	-
<b>Total deferred tax liabilities</b>	<b>-5,487</b>	<b>-4,136</b>	<b>0</b>	<b>0</b>
<b>Total net deferred tax</b>	<b>-5,257</b>	<b>-3,964</b>	<b>230</b>	<b>172</b>

AMOUNTS IN KSEK	GROUP			PARENT COMPANY		
	JANUARY 1, 2017	PRESENTED IN INCOME STATEMENT	DECEMBER 31, 2017	JANUARY 1, 2017	PRESENTED IN INCOME STATEMENT	DECEMBER 31, 2017
Leasehold improvements	172	57	230	172	57	230
<b>Total deferred tax asset</b>	<b>172</b>	<b>57</b>	<b>230</b>	<b>172</b>	<b>57</b>	<b>230</b>
Tax allocation reserve	-4,136	-1,056	-5,192	0	-	0
Accelerated depreciation	0	-295	-295	0	-	0
<b>Total deferred tax liabilities</b>	<b>-4,136</b>	<b>-1,351</b>	<b>-5,487</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Total net deferred tax</b>	<b>-3,964</b>	<b>-1,294</b>	<b>-5,257</b>	<b>172</b>	<b>57</b>	<b>230</b>

AMOUNTS IN KSEK	GROUP			PARENT COMPANY		
	JANUARY 1, 2016	PRESENTED IN INCOME STATEMENT	DECEMBER 31, 2016	JANUARY 1, 2016	PRESENTED IN INCOME STATEMENT	DECEMBER 31, 2016
Leasehold improvements	88	84	172	88	84	172
<b>Total deferred tax asset</b>	<b>88</b>	<b>84</b>	<b>172</b>	<b>88</b>	<b>84</b>	<b>172</b>
Tax allocation reserve	0	-4,136	-4,136	0	-	0
Accelerated depreciation	0	-	0	0	-	0
<b>Total deferred tax liabilities</b>	<b>0</b>	<b>-4,136</b>	<b>-4,136</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Total net deferred tax</b>	<b>88</b>	<b>-4,052</b>	<b>-3,964</b>	<b>88</b>	<b>84</b>	<b>172</b>

#### NOTE 15

#### EARNINGS PER SHARE AND SHARE DATA

Earnings per share are calculated by dividing the profit attributable to the parent company's shareholders by a weighted average number of outstanding ordinary shares during the period.

AMOUNTS IN KSEK	GROUP	
	2017	2016
Comprehensive income for the year attributable to owners of the parent company, kSEK	15,157	57,580
Weighted average number of outstanding shares <sup>1,2</sup>	68,059,985	63,059,985
<b>Earnings per share, SEK</b>	<b>0.22</b>	<b>0.91</b>
Proposed dividend per share, SEK <sup>3</sup>	None	None
Number of outstanding shares at December 31 <sup>1,2</sup>	88,059,985	63,059,985

<sup>1)</sup> No potential shares exist, thus there is no dilution effect.

<sup>2)</sup> The comparative numbers have been recalculated as a result of the 15:1 split carried out on August 1, 2017.

<sup>3)</sup> Dividends to the amount of kSEK 105,100 were decided at the extraordinary general meeting in November 2016.

**NOTE 16 TANGIBLE ASSETS**

AMOUNTS IN KSEK	GROUP			PARENT COMPANY		
	LEASEHOLD IMPROVEMENTS	EQUIPMENT	TOTAL	LEASEHOLD IMPROVEMENTS	EQUIPMENT	TOTAL
Acquisition value at January 1, 2017	2,212	16,923	19,136	2,212	16,923	19,136
Acquisitions	44	3,403	3,448	44	3,403	3,448
Sales/disposals	-	-2,332	-2,332	-	-2,332	-2,332
<b>Acquisition value at December 31, 2017</b>	<b>2,257</b>	<b>17,994</b>	<b>20,251</b>	<b>2,257</b>	<b>17,994</b>	<b>20,251</b>
Depreciations at January 1, 2017	-937	-12,554	-13,491	-937	-12,554	-13,491
Sales/disposals	-	2,326	2,326	-	2,326	2,326
Depreciations	-372	-1,621	-1,993	-372	-1,621	-1,993
<b>Depreciations at December 31, 2017</b>	<b>-1,310</b>	<b>-11,849</b>	<b>-13,158</b>	<b>-1,310</b>	<b>-11,849</b>	<b>-13,158</b>
<b>Book value at January 1, 2017</b>	<b>1,275</b>	<b>4,369</b>	<b>5,644</b>	<b>1,275</b>	<b>4,369</b>	<b>5,644</b>
<b>Book value at December 31, 2017</b>	<b>947</b>	<b>6,146</b>	<b>7,093</b>	<b>947</b>	<b>6,146</b>	<b>7,093</b>

AMOUNTS IN KSEK	GROUP			PARENT COMPANY		
	LEASEHOLD IMPROVEMENTS	EQUIPMENT	TOTAL	LEASEHOLD IMPROVEMENTS	EQUIPMENT	TOTAL
Acquisition value at January 1, 2016	2,128	14,646	16,774	2,128	14,646	16,774
Acquisitions	84	2,882	2,967	84	2,882	2,967
Sales/disposals	-	-605	-605	-	-605	-605
<b>Acquisition value at December 31, 2016</b>	<b>2,212</b>	<b>16,923</b>	<b>19,136</b>	<b>2,212</b>	<b>16,923</b>	<b>19,136</b>
Depreciations at January 1, 2016	-448	-12,092	-12,540	-448	-12,092	-12,540
Sales/disposals	-	-605	-605	-	-605	-605
Depreciations	-489	143	-346	-489	143	-346
<b>Depreciations at December 31, 2016</b>	<b>-937</b>	<b>-12,554</b>	<b>-13,491</b>	<b>-937</b>	<b>-12,554</b>	<b>-13,491</b>
<b>Book value at January 1, 2016</b>	<b>1,680</b>	<b>2,554</b>	<b>4,234</b>	<b>1,680</b>	<b>2,554</b>	<b>4,234</b>
<b>Book value at December 31, 2016</b>	<b>1,275</b>	<b>4,369</b>	<b>5,644</b>	<b>1,275</b>	<b>4,369</b>	<b>5,644</b>

**NOTE 17    SHARES IN SUBSIDIARIES**

AMOUNTS IN KSEK	PARENT COMPANY	
	DECEMBER 31, 2017	DECEMBER 31, 2016
Opening acquisition value	100	95
Acquisition	-	5
<b>Closing acquisition value</b>	<b>100</b>	<b>100</b>

**SPECIFICATION OF PARENT COMPANY SHARES IN SUBSIDIARIES**

COMPANY/ REG NO/ REG OFFICE	Owned in % <sup>1</sup>	EQUITY	PROFIT FOR THE YEAR
SpineMedical AB, 559003-7080, Stockholm	100.0%	49	-1
LPB Sweden AB, 559035-9112, Stockholm	100.0%	50	-

<sup>1</sup> Participating interest of the capital is referred to, which also corresponds to the share of the votes for the total number of shares.

**NOTE 18    OTHER NON-CURRENT FINANCIAL ASSETS**

AMOUNTS IN KSEK	GROUP		PARENT COMPANY	
	DECEMBER 31, 2017	DECEMBER 31, 2016	DECEMBER 31, 2017	DECEMBER 31, 2016
Deposit	2,675	2,675	2,675	2,675
<b>Total other non-current financial assets</b>	<b>2,675</b>	<b>2,675</b>	<b>2,675</b>	<b>2,675</b>

Relating to the deposit for premises in the form of restricted cash, see Note 28.

## NOTE 19

## OVERVIEW OF FINANCIAL INSTRUMENTS

**Calculation of fair value**

The Group's financial assets and liabilities are entirely related to means of payment, current receivables and liabilities (e.g. accounts receivable and accounts payable). For these assets and liabilities fair

value has been equated with book value. The Group has no foreign exchange contracts or listed securities. The fair value of financial assets and liabilities is reported in the table below.

JANUARY 31, 2017 AMOUNT IN KSEK	NOTE	MEASUREMENT LEVEL	FINANCIAL LIABILI- TIES MEASURED AT AMORTIZED COST	LOANS AND RECEIVABLES	TOTAL BOOK VALUE	FAIR VALUE
<b>Financial assets</b>						
Account receivables	20	-	-	-	0	-
Other current receivables	21	-	-	4,728	4,728	4,728
Cash and cash equivalents	23	-	-	1,110,367	1,110,367	1,110,367
<b>Total financial assets</b>			<b>0</b>	<b>1,115,095</b>	<b>1,115,095</b>	<b>1,115,095</b>
<b>Financial liabilities</b>						
Account payable		-	-7,586	-	-7,586	-7,586
Other current liabilities		-	-1,263	-	-1,263	-1,263
<b>Total financial liabilities</b>			<b>-8,850</b>	<b>0</b>	<b>-8,850</b>	<b>-8,850</b>
<b>Total financial instruments (assets + / liabilities -)</b>			<b>-8,850</b>	<b>1,115,095</b>	<b>1,106,246</b>	<b>1,106,246</b>

JANUARY 31, 2016 AMOUNT IN KSEK	NOTE	MEASUREMENT LEVEL	FINANCIAL LIABILI- TIES MEASURED AT AMORTIZED COST	LOANS AND RECEIVABLES	TOTAL BOOK VALUE	FAIR VALUE
<b>Financial assets</b>						
Account receivables	20	-	-	634	634	634
Other current receivables	21	-	-	1,764	1,764	1,764
Cash and cash equivalents	23	-	-	692,530	692,530	692,530
<b>Total financial assets</b>			<b>0</b>	<b>694,928</b>	<b>694,928</b>	<b>694,928</b>
<b>Financial liabilities</b>						
Account payable		-	-11,736	-	-11,736	-11,736
Other current liabilities		-	-1,091	-	-1,091	-1,091
<b>Total financial liabilities</b>			<b>-12,827</b>	<b>0</b>	<b>-12,827</b>	<b>-12,827</b>
<b>Total financial instruments (assets + / liabilities -)</b>			<b>-12,827</b>	<b>694,928</b>	<b>682,101</b>	<b>682,101</b>

### Valuation of financial instruments

The Group uses the following hierarchy to determine the fair value of financial instruments:

- Level 1: Quoted, unadjusted prices in active markets for identical instruments.
- Level 2: Inputs other than the quoted prices included in level 1 that are directly or indirectly observable for the instrument.
- Level 3: Non-observable data that have significant influence on the fair value of the instrument.

### GROUPS MATURITY STRUCTURE FOR UNDISCOUNTED FINANCIAL LIABILITIES

AMOUNTS IN KSEK	2018	2019	2020	2021	2022
Account payable	7,586	-	-	-	-
Other current liabilities	1,263	-	-	-	-
<b>Total</b>	<b>8,850</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

### NOTE 20 ACCOUNT RECEIVABLES

AMOUNTS IN KSEK	GROUP		PARENT COMPANY	
	DECEMBER 31, 2017	DECEMBER 31, 2016	DECEMBER 31, 2017	DECEMBER 31, 2016
Account receivables, gross	-	634	-	634
Provision for bad debts	-	-	-	-
<b>Total account receivables</b>	<b>0</b>	<b>634</b>	<b>0</b>	<b>634</b>

ACCOUNT RECEIVABLES MATURITY STRUCTURE	GROUP		PARENT COMPANY	
	DECEMBER 31, 2017	DECEMBER 31, 2016	DECEMBER 31, 2017	DECEMBER 31, 2016
Not yet due	-	634	-	634
<b>Total not yet due</b>	<b>0</b>	<b>634</b>	<b>0</b>	<b>634</b>
Overdue 0–30 days	-	-	-	-
Overdue 31–60 days	-	-	-	-
Overdue more than 60 days	-	-	-	-
<b>Total overdue account receivables</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

No anticipated or actual customer losses have been posted, neither in the Group, nor in the parent company during the financial year.

**NOTE 21 OTHER CURRENT RECEIVABLES**

AMOUNTS IN KSEK	GROUP		PARENT COMPANY	
	DECEMBER 31, 2017	DECEMBER 31, 2016	DECEMBER 31, 2017	DECEMBER 31, 2016
VAT receivables	3,865	1,764	3,865	1,764
Tax account	861	0	861	0
Reveivables on employees	2	-	2	-
<b>Total other current receivables</b>	<b>4,728</b>	<b>1,764</b>	<b>4,728</b>	<b>1,764</b>

**NOTE 22 PREPAID EXPENSES AND ACCRUED INCOME**

AMOUNTS IN KSEK	GROUP		PARENT COMPANY	
	DECEMBER 31, 2017	DECEMBER 31, 2016	DECEMBER 31, 2017	DECEMBER 31, 2016
Prepaid rent	1,606	1,598	1,606	1,598
Other prepaid expenses	1,206	2,959	1,206	2,959
Accrued income	12,578	-	12,578	-
<b>Total prepaid expenses and accrued income</b>	<b>15,390</b>	<b>4,557</b>	<b>15,390</b>	<b>4,557</b>

**NOTE 23 CASH AND CASH EQUIVALENTS**

AMOUNTS IN KSEK	GROUP		PARENT COMPANY	
	DECEMBER 31, 2017	DECEMBER 31, 2016	DECEMBER 31, 2017	DECEMBER 31, 2016
Cash and bank balances	1,110,367	692,530	1,110,269	692,430
<b>Total cash and cash equivalents</b>	<b>1,110,367</b>	<b>692,530</b>	<b>1,110,269</b>	<b>692,430</b>

**NOTE 24 SHARE CAPITAL**

CLASS OF SHARES	NUMBERS OF SHARES	SHARE CAPITAL, SEK	RATIO VALUE, SEK	VOTES PER SHARE	TOTAL VOTES
A-shares	14,399,996	288,000	0,02	10	143,999,960
B-shares	73,659,989	1,473,200	0,02	1	73,659,989
<b>Total</b>	<b>88,059,985</b>	<b>1,761,200</b>			<b>217,659,949</b>



YEAR	EVENT	NUMBER OF NEW SHARES	A-SHARES	B-SHARES	TOTAL NUMBER OF SHARES	CHANGE IN SHARE CAPITAL, SEK	TOTAL SHARE CAPITAL
2000	Company founded	1,000	1,000	-	1,000	100,000	100,000
2002	Split 1000:1	999,000	1,000,000	-	1,000,000	-	100,000
2002	Split 4:1	3,000,000	4,000,000	-	4,000,000	-	100,000
2002	Reclassification A- to B-shares	-	3,000,000	1,000,000	4,000,000	-	100,000
2004	Rights issue	133,333	3,133,333	1,000,000	4,133,333	3,333	103,333
2005	Rights issue	66,666	3,199,999	1,000,000	4,199,999	1,667	105,000
2011	Subscription through warrants	4,000	3,199,999	1,004,000	4,203,999	100	105,100
2017	Bonus issue	-	3,199,999	1,004,000	4,203,999	1,156,100	1,261,200
2017	Split 15:1	58,855,986	47,999,985	15,060,000	63,059,985	-	1,261,200
2017	Reclassification A- to B-shares	-	14,399,996	48,659,989	63,059,985	-	1,261,200
2017	Rights issue	25,000,000	14,399,996	73,659,989	88,059,985	500,000	1,761,200
		<b>88,059,985</b>				<b>1,761,200</b>	

Concerning changes in equity, please refer to the Group's and the parent company's reports of changes in equity.

#### NOTE 25 PROPOSED APPROPRIATION OF RETAINED EARNINGS

The board proposes that available funds, amounting SEK 613,962,462, be disposed of as follows:

AMOUNTS IN SEK	DECEMBER 31, 2017
Carried forward	613,962,462
<b>Total</b>	<b>613,962,462</b>

#### NOTE 26 UNTAXED RESERVES

AMOUNTS IN KSEK	PARENT COMPANY	
	DECEMBER 31, 2017	DECEMBER 31, 2016
Tax allocation reserve, 2016	18,800	18,800
Tax allocation reserve, 2017	4,800	-
<b>Total tax allocation reserve</b>	<b>23,600</b>	<b>18,800</b>
Accelerated depreciations	1,341	-
<b>Total untaxed reserves</b>	<b>24,941</b>	<b>18,800</b>

**NOTE 27****ACCRUED EXPENSES AND  
PREPAID INCOME**

AMOUNTS IN KSEK	GROUP		PARENT COMPANY	
	DECEMBER 31, 2017	DECEMBER 31, 2016	DECEMBER 31, 2017	DECEMBER 31, 2016
Accrued personnel expenses	3,979	2,967	3,979	2,967
Other accrued expenses	9,413	5,204	9,413	5,204
Prepaid income	473,311	608,813	473,311	608,813
Prepaid EU grants	-	5,845	-	5,845
Prepaid rental income	-	507	-	507
<b>Total accrued expenses and prepaid income</b>	<b>486,702</b>	<b>623,336</b>	<b>486,702</b>	<b>623,336</b>

**NOTE 28****PLEGGED ASSETS AND  
CONTINGENT LIABILITIES****Pledged assets**

Pledged assets according to the table below are pledged as security for office space.

AMOUNTS IN KSEK	GROUP		PARENT COMPANY	
	DECEMBER 31, 2017	DECEMBER 31, 2016	DECEMBER 31, 2017	DECEMBER 31, 2016
Restricted cash	2,675	2,675	2,675	2,675
<b>Total pledged assets</b>	<b>2,675</b>	<b>2,675</b>	<b>2,675</b>	<b>2,675</b>

**Contingent liabilities**

The following contingent liabilities have been identified applying to the Group as well as the parent company:

- BioArctic has under existing EU research collaborations a repayment obligation towards contracting party in case of termination of the projects and advance payments received are exceeding the costs incurred. BioArctic also has an obligation to pay for health care needs of patients included in these studies.
- Within the framework of received Swedish public grants the company has a repayment obligation if the projects are terminated, or the company does not carry out the projects according to instructions, and the accumulated project costs are less than what has been paid.
- The spinal cord injury project includes patients who either are treated with SC0806, i.e. undergo surgery, or participate as control patients. So far five patients have had surgery and another three patients participate in the study's control group. One of these three has left the study and thus two control patients remain. BioArctic has made a commitment to the control group that these patients shall get treatment with SC0806 in the case that the study produces a positive result. BioArctic thus has an obligation to two control patients.

All projects are running according to plan and there are no indications that repayment obligations or other obligations could arise. The same assessment was made in 2016.

## NOTE 29

## DISCLOSURES ON THE CASH FLOW STATEMENT

ADJUSTMENT FOR NON-CASH ITEMS AMOUNTS IN KSEK	GROUP		PARENT COMPANY	
	2017	2016	2017	2016
Depreciations of tangible assets	1,993	1,556	1,993	1,556
Profit (-) / loss (+) on sales of tangible assets	-629	-	-629	-
Prepaid income	-150,037	-9,502	-150,037	-9,502
Unrealized foreign exchange gains (-) / losses (+)	5,219	-12,139	5,219	-12,139
<b>Total adjustment for non-cash items</b>	<b>-143,453</b>	<b>-20,085</b>	<b>-143,453</b>	<b>-20,085</b>

## NOTE 30

## TRANSACTIONS WITH AFFILIATED PARTIES

Former board director Mikael Smedeby is active as a lawyer and partner in Advokatfirman Lindahl KB, which provides day-to-day business legal advice to BioArctic against compensation on market terms. In 2016 Advokatfirman Lindahl's invoiced fees amounted to approx. MSEK 0.9 MSEK. During 2017 the invoiced fees amounted to approx. MSEK 5.2, mainly consisting of costs due to the stock exchange listing during the year.

In addition to compensation to Advokatfirman Lindahl KB and fixed salary and fees to Pär Gellerfors and Lars Lannfelt as described in Note 9, no additional significant transactions have occurred between the Group and related parties. All transactions have been made on market terms.

## NOTE 31

## EVENTS AFTER THE BALANCE SHEET DATE

BioArctic's patent was granted in the US and Japan for a method with a medical device, which is one of the components of the product candidate SC0806, for the treatment of patients with complete spinal cord injury.

BioArctic obtained approval from the Estonian and Norwegian authorities for drugs and medical devices and the local ethical committees to include Estonian and Norwegian patients in the company's ongoing clinical Phase1/2 study with SC0806 for the treatment of patients with complete spinal cord injury.

## NOTE 32

## INFORMATION OF PURCHASES AND SALES WITHIN THE GROUP

No purchases or sales have taken place within the Group.

## NOTE 33

## DEFINITION AND RECONCILIATION OF KEY RATIO

KEY RATIO	DEFINITION
Other revenue	Other revenue than net sales
Operating profit/loss	Result before financial items
Earnings per share	Net profit for the year divided by a weighted average number of outstanding shares
Equity per share	Adjusted equity divided by the number of shares at the end of the period
Cash flow from operating activities per share, SEK	The period's cash flow from operating activities divided by a weighted average number of outstanding shares
Equity/asset ratio	Adjusted equity in percent of the balance sheet total
Return on equity	Profit after tax in percent of average adjusted equity

## NOTE 33

DEFINITION AND RECONCILIATION OF  
KEY RATIO *cont.*

## RECONCILIATION OF KEY RATIO

AMOUNTS IN KSEK	2017	2016	2015	2014	2013
<b>Earnings per share</b>					
Profit for the year	15,157	57,580	3,710	6,788	9,194
Weighted average number of outstanding shares <sup>1</sup>	68,059,985	63,059,985	63,059,985	63,059,985	63,059,985
<b>Earning per share, SEK</b>	<b>0.22</b>	<b>0.91</b>	<b>0.06</b>	<b>0.11</b>	<b>0.15</b>
<b>Equity per share</b>					
Adjusted equity	636,134	60,760	108,285	104,570	97,782
Number of outstanding shares <sup>1</sup>	88,059,985	63,059,985	63,059,985	63,059,985	63,059,985
<b>Equity per share, SEK</b>	<b>7.22</b>	<b>0.96</b>	<b>1.72</b>	<b>1.66</b>	<b>1.55</b>
<b>Cash flow from operating activities per share</b>					
Cash flow from operating activities	-135,327	675,131	-16,434	-24,184	72,300
Weighted average number of outstanding shares <sup>1</sup>	68,059,985	63,059,985	63,059,985	63,059,985	63,059,985
<b>Cash flow from operating activities per share, SEK</b>	<b>-1.99</b>	<b>10.71</b>	<b>-0.26</b>	<b>-0.38</b>	<b>1.15</b>
<b>Equity/asset ratio</b>					
Adjusted equity	636,134	60,760	108,285	104,570	97,782
Balance sheet total	1,140,483	707,976	131,111	154,387	184,628
<b>Equity/asset ratio, %</b>	<b>55.8%</b>	<b>8.6%</b>	<b>82.6%</b>	<b>67.7%</b>	<b>53.0%</b>
<b>Return on equity</b>					
Profit for the year	15,157	57,580	3,710	6,788	9,194
Average adjusted equity	348,447	84,522	106,428	101,176	93,185
<b>Return on equity, %</b>	<b>4.3%</b>	<b>68.1%</b>	<b>3.5%</b>	<b>6.7%</b>	<b>9.9%</b>

<sup>1)</sup> The comparative numbers have been recalculated as a result of the 15:1 split carried out on August 1, 2017.

# Assurance of the Board of directors and CEO

The undersigned hereby assure that the consolidated accounts and annual report were prepared as per international Financial Reporting Standards (IFRS) as adopted by the EU, and generally accepted accounting principles, respectively and provide a true and fair view of the development of the Group's and parent company's position and performance, and the administration report provides a true and fair view of the development of the Group's

and parent company's operations, position and performance as well as describing material risks uncertainties faced by the companies that are part of the Group. The income statements and balance sheets of the parent company and the Group are subject to adoption by the annual general meeting on May 15, 2018.

Stockholm, Sweden on April 17, 2018

Wenche Rolfsen  
*Chairman*

Ivar Verner  
*Deputy Chairman*

Hans Ekelund  
*Board member*

Pär Gellerfors  
*Board member*

Lars Lannfelt  
*Board member*

Eugen Steiner  
*Board member*

Gunilla Osswald  
*President and Chief Executive Officer*

Our audit report is issued on April 20, 2018  
Grant Thornton Sweden AB

Mia Rutenius  
*Authorized public accountant  
Auditor in charge*

Rutger Nordström  
*Authorized public accountant*

# Auditor's report

To the general meeting of the shareholders of BioArctic AB (publ) corporate identity number 556601-2679

## Report on the annual accounts and consolidated accounts

### Opinions

We have audited the annual accounts and consolidated accounts of BioArctic AB (publ) for the year 2017, with the exception of the Corporate Governance Report on pages 44-51. The annual accounts and consolidated accounts of the company are included on pages 37-85 in this document.

In our opinion, the annual accounts have been prepared in accordance with the Annual Accounts Act and present fairly, in all material respects, the financial position of parent company as of December 31, 2017 and its financial performance and cash flow for the year then ended in accordance with the Annual Accounts Act. The consolidated accounts have been prepared in accordance with the Annual Accounts Act and present fairly, in all material respects, the financial position of the group as of December 31, 2017 and their financial performance and cash flow for the year then ended in accordance with International Financial Reporting Standards (IFRS), as adopted by the EU, and the Annual Accounts Act. Our statements do not include the Corporate Governance Report on the pages 44-51. The statutory administration report is consistent with the other parts of the annual accounts and consolidated accounts.

We therefore recommend that the general meeting of shareholders adopts the income statement and balance sheet for the parent company and the group.

Our opinions in this report on the annual accounts and consolidated accounts are consistent with the content of the additional report that has been submitted to the parent company's audit committee in accordance with the Audit Regulation (537/2014/EU) Article 11.

### Basis for Opinions

We conducted our audit in accordance with International Standards on Auditing (ISA) and generally accepted auditing standards in Sweden. Our responsibilities under those standards are further described in the Auditor's Responsibilities section. We are independent of the parent company and the group in accordance with professional ethics for accountants in Sweden and have otherwise fulfilled our ethical responsibilities in accordance with these requirements. This includes that, based on the best of our knowledge and belief, no prohibited services referred to in the Audit Regulation (537/2014/EU) Article 5.1 have been provided to the audited company or, where applicable, its parent company or its controlled companies within the EU.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinions.

### Key Audit Matters

Key audit matters of the audit are those matters that, in our professional judgment, were of most significance in our audit of the annual accounts and consolidated accounts of the current period. These matters were addressed in the context of our audit of, and in forming our opinion thereon, the annual accounts and consolidated accounts as a whole, but we do not provide a separate opinion on these matters.

### Revenue recognition

The Group's reported revenues as at December 31, 2017 is kSEK 140,706 and mainly includes compensations related to research agreements. Revenues recognition related to compensations from research agreements are made based on percentage of completion. Since the Group's revenues are of material amount and includes significant elements of assessments revenues have been assessed as a key audit matter. For further information on accounting policies for revenue recognition, see note 2 in the annual report of BioArctic AB (publ).

Our audit has included the following audit procedures but were not limited to these:

- Understanding and assessment of the company's routines and controls related to revenue recognition,
- Examination of agreements, test of completeness related to revenue recognition based on agreements,
- Examination of project accounting, examination of project expenses and examination of the assessments made by management related to percentage of completion and revenue recognition in major research collaborations,
- Examination of valuation regarding deferred incomes,
- Examination and assessment of applied accounting principles and whether information disclosed in the annual report is sufficient.

### Other Information than the annual accounts and consolidated accounts

This document also contains other information than the annual accounts and consolidated accounts and is found on pages 3-36. The Board of Directors and the Managing Director are responsible for this other information.

Our opinion on the annual accounts and consolidated accounts does not cover this other information and we do not express any form of assurance conclusion regarding this other information.

In connection with our audit of the annual accounts and consolidated accounts, our responsibility is to read the information identified above and consider whether the information is materially inconsistent with the annual accounts and consolidated accounts. In this procedure we also take into account our knowledge otherwise obtained in the audit and assess whether the information otherwise appears to be materially misstated.

If we, based on the work performed concerning this informa-

tion, conclude that there is a material misstatement of this other information, we are required to report that fact. We have nothing to report in this regard.

### **Responsibilities of the Board of Directors and the Managing Director**

The Board of Directors and the Managing Director are responsible for the preparation of the annual accounts and consolidated accounts and that they give a fair presentation in accordance with the Annual Accounts Act and, concerning the consolidated accounts, in accordance with IFRS as adopted by the EU. The Board of Directors and the Managing Director are also responsible for such internal control as they determine is necessary to enable the preparation of annual accounts and consolidated accounts that are free from material misstatement, whether due to fraud or error.

In preparing the annual accounts and consolidated accounts, The Board of Directors and the Managing Director are responsible for the assessment of the company's and the group's ability to continue as a going concern. They disclose, as applicable, matters related to going concern and using the going concern basis of accounting. The going concern basis of accounting is however not applied if the Board of Directors and the Managing Director intends to liquidate the company, to cease operations, or has no realistic alternative but to do so.

The Audit Committee shall, without prejudice to the Board of Director's responsibilities and tasks in general, among other things oversee the company's financial reporting process.

### **Auditor's responsibility**

Our objectives are to obtain reasonable assurance about whether the annual accounts and consolidated accounts as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinions. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with ISAs and generally accepted auditing standards in Sweden will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these annual accounts and consolidated accounts.

As part of an audit in accordance with ISAs, we exercise professional judgment and maintain professional skepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the annual accounts and consolidated accounts, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinions. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of the company's internal control relevant to our audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose

of expressing an opinion on the effectiveness of the company's internal control.

- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by the Board of Directors and the Managing Director.
- Conclude on the appropriateness of the Board of Directors' and the Managing Director's use of the going concern basis of accounting in preparing the annual accounts and consolidated accounts. We also draw a conclusion, based on the audit evidence obtained, as to whether any material uncertainty exists related to events or conditions that may cast significant doubt on the company's and the group's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the annual accounts and consolidated accounts or, if such disclosures are inadequate, to modify our opinion about the annual accounts and consolidated accounts. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause a company and a group to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the annual accounts and consolidated accounts, including the disclosures, and whether the annual accounts and consolidated accounts represent the underlying transactions and events in a manner that achieves fair presentation.
- Obtain sufficient and appropriate audit evidence regarding the financial information of the entities or business activities within the group to express an opinion on the consolidated accounts. We are responsible for the direction, supervision and performance of the group audit. We remain solely responsible for our opinions.

We must inform the Board of Directors of, among other matters, the planned scope and timing of the audit. We must also inform of significant audit findings during our audit, including any significant deficiencies in internal control that we identified.

We must also provide the Board of Directors with a statement that we have complied with relevant ethical requirements regarding independence, and to communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, related safeguards.

From the matters communicated with the Board of Directors, we determine those matters that were of most significance in the audit of the annual accounts and consolidated accounts, including the most important assessed risks for material misstatement, and are therefore the key audit matters. We describe these matters in the auditor's report unless law or regulation precludes disclosure about the matter.

### **Report on other legal and regulatory requirements**

#### **Opinions**

In addition to our audit of the annual accounts and consolidated accounts, we have also audited the administration of the Board of Directors and the Managing Director of BioArctic AB (publ) for the year 2017 and the proposed appropriations of the company's profit or loss.

We recommend to the general meeting of shareholders that

the profit be appropriated in accordance with the proposal in the statutory administration report and that the members of the Board of Directors and the Managing Director be discharged from liability for the financial year.

### *Basis for Opinions*

We conducted the audit in accordance with generally accepted auditing standards in Sweden. Our responsibilities under those standards are further described in the Auditor's Responsibilities section. We are independent of the parent company and the group in accordance with professional ethics for accountants in Sweden and have otherwise fulfilled our ethical responsibilities in accordance with these requirements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinions.

### *Responsibilities of the Board of Directors and the Managing Director*

The Board of Directors is responsible for the proposal for appropriations of the company's profit or loss. At the proposal of a dividend, this includes an assessment of whether the dividend is justifiable considering the requirements which the company's and the group's type of operations, size and risks place on the size of the parent company's and the group's equity, consolidation requirements, liquidity and position in general.

The Board of Directors is responsible for the company's organization and the administration of the company's affairs. This includes among other things continuous assessment of the company's and the group's financial situation and ensuring that the company's organization is designed so that the accounting, management of assets and the company's financial affairs otherwise are controlled in a reassuring manner. The Managing Director shall manage the ongoing administration according to the Board of Directors' guidelines and instructions and among other matters take measures that are necessary to fulfill the company's accounting in accordance with law and handle the management of assets in a reassuring manner.

### *Auditor's responsibility*

Our objective concerning the audit of the administration, and thereby our opinion about discharge from liability, is to obtain audit evidence to assess with a reasonable degree of assurance whether any member of the Board of Directors or the Managing Director in any material respect:

- has undertaken any action or been guilty of any omission which can give rise to liability to the company, or
- in any other way has acted in contravention of the Companies Act, the Annual Accounts Act or the Articles of Association.

Our objective concerning the audit of the proposed appropriations of the company's profit or loss, and thereby our opinion about this, is to assess with reasonable degree of assurance whether the proposal is in accordance with the Companies Act.

Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with generally accepted auditing standards in Sweden will always detect actions

or omissions that can give rise to liability to the company, or that the proposed appropriations of the company's profit or loss are not in accordance with the Companies Act.

As part of an audit in accordance with generally accepted auditing standards in Sweden, we exercise professional judgment and maintain professional skepticism throughout the audit. The examination of the administration and the proposed appropriations of the company's profit or loss is based primarily on the audit of the accounts. Additional audit procedures performed are based on our professional judgment with starting point in risk and materiality. This means that we focus the examination on such actions, areas and relationships that are material for the operations and where deviations and violations would have particular importance for the company's situation. We examine, and test decisions undertaken, support for decisions, actions taken and other circumstances that are relevant to our opinion concerning discharge from liability. As a basis for our opinion on the Board of Directors' proposed appropriations of the company's profit or loss we examined whether the proposal is in accordance with the Companies Act.

### *Auditor's report on the corporate governance statement*

It is the board of directors who is responsible for the corporate governance statement found on pages 44-51 and that it has been prepared in accordance with the Annual Accounts Act. Our review has been conducted in accordance with FAR's auditing standard RevU 16 The auditor's review of the corporate governance statement. This means that our review of the corporate governance statement is different and substantially less in scope than an audit conducted in accordance with International Standards on Auditing and generally accepted auditing standards in Sweden. We believe that the review has provided us with sufficient basis for our opinions.

A corporate governance statement has been prepared. Disclosures in accordance with chapter 6 section 6 the second paragraph points 2-6 the Annual Accounts Act and chapter 7 section 31 the second paragraph the same law are consistent with the annual accounts and the consolidated accounts and are in accordance with the Annual Accounts Act.

Grant Thornton Sweden AB, Sveavägen 20 SE-111 57 Stockholm, was appointed auditor of BioArctic AB by the general meeting of the shareholders on May 31, 2017 and has been the company's auditor since June 22, 2016. The audit assignment has since November 22, 2000, been held by a public accountant elected in a personal capacity employed by Grant Thornton Sweden AB. BioArctic AB (publ) has been a public interest entity since October 12, 2017.

Stockholm April 20, 2018  
Grant Thornton Sweden AB

Mia Rutenius	Rutger Nordström
Authorized public accountant	Authorized public accountant
Auditor in charge	



# Notice of Annual General Meeting

The annual general meeting of BioArctic AB (publ) will be held on Tuesday, May 15, 2018, at 5 p.m., at Grant Thornton Sweden AB, Sveavägen 20, Stockholm in Sweden.

Notice to attend the annual general meeting will be published on Friday, April 13, by press release and on the company's website. The notice will also be published in the Swedish Official Gazette (Sw. Post- och Inrikestidningar) on Tuesday, April 17, 2018. An announcement that the notice has been made will be published in Svenska Dagbladet on Tuesday, April 17, 2018.

The notice to attend the general meeting and the proposals and documentation that will be presented at the annual general meeting are available at [www.bioarctic.com](http://www.bioarctic.com) under the Governance section.

## Participation at the annual general meeting

Shareholders who wish to participate in the annual general meeting must be registered in the share register kept by Euroclear Sweden AB on Tuesday, May 8, 2018, and give notice to the company of its intention to participate at the general meeting no later than on Friday, May 11, 2018. Such notice can be made by email to [ir@bioarctic.se](mailto:ir@bioarctic.se), by telephone +46 (0)73 531 8870 weekdays between 9 a.m. to 5 p.m. or by mail to BioArctic AB, Warfväges väg 35, SE-112 51 Stockholm, Sweden.

The notice shall include the shareholder's name, personal identification number or company identity number, address and daytime telephone number, number of shares, details on advisors (no more than two), and the details of any representatives or proxies. If the shareholder participates through a representative, a power of attorney in original form (along with any authorization documents such as a registration certificate) must be presented to the company before the annual general meeting.

## Nominee-registered shares

To be entitled to participate in the annual general meeting, shareholders whose shares are registered in the name of a nominee must temporarily re-register their shares in their own names in the share register maintained by Euroclear Sweden AB in order to be entitled to attend the annual general meeting. Such registration must be duly effected in the share register on May 8, 2018, and the shareholders must therefore advise their nominees well in advance of such date.

## Dividends

No dividend has been proposed by the board of directors in connection with the 2018 annual general meeting.

# Glossary

## **ADCOMS**

Alzheimer's Disease Composite Score – A cognition scale consisting of parts from three different scales (CDR-SB, ADAS-cog and MMSE) developed by Eisai

## **Alpha-synuclein ( $\alpha$ -synuclein)**

A protein in the nervous system, present in Lewy bodies in some structures of the brain in Parkinson's Disease

## **Amyloid-beta (A $\beta$ )**

A 40-42 amino acids long peptide, split from the parent protein APP, amyloid precursor protein. A $\beta$  is the main constituent of the plaques found in the brain of Alzheimer patients

## **Antibody**

Protein used by the body's immune system to detect and destroy foreign substances

## **Arctic mutation**

A mutation in the amyloid precursor protein (APP) leading to an increase of oligomers/protofibrils of A $\beta$ . Individuals with the Arctic mutation develop Alzheimer's disease at an early age. The Arctic mutation was discovered by Professor Lars Lannfelt and his research group and has given name to the company

## **Axon**

Nerve fibers that are outgrowths from nerve cells (neurons)

## **Bayesian study**

A study where collected data is combined with known facts for a complete conclusion

## **Biomarker**

A measurable indicator of a medical condition

## **Blood-brain barrier**

A physiological mechanism in which merged capillary walls in the brain's blood vessels regulate the transport of molecules between the blood and the brain tissue, with the function to protect the brain against viruses and other harmful agents

## **Central nervous system**

The central nervous system consists of the brain and the spinal cord

## **Clinical studies**

Drug trials performed in human subjects

## **Complete Spinal Cord Injury**

A complete injury means that the spinal cord is complete severed. In an incomplete injury there are still a few nerve contacts left

## **Disease modifying treatment**

A treatment that interferes with the processes of the disease and changes it in a positive way

## **Drug candidate**

A drug under development that has not yet gained marketing approval

## **Humanized antibody**

An antibody in which the sequence has been changed to resemble a human antibody

## **Immune therapy**

Treatment that strengthens the body's immune system and ability to attack a pathogen, or defend against/prevent autoimmune reactions

## **Interim analysis**

In clinical trials and other scientific studies, an interim analysis is an analysis of data that is conducted before data collection has been completed

## **Lewy bodies**

Lewy bodies are small round protein accumulations in the nerve cells

## **Ligand**

Molecule that binds to the desired target in the body

## **Medical device for implantation**

A medical device that is intended to be totally or partially introduced, surgically or medically, into the human body, or through a medical procedure in a body opening, and intended to remain there after the operation

## **Milestone payment**

Financial compensation obtained within the framework of a project or collaboration agreement when a certain specified objective has been achieved

## **Monoclonal antibody**

An antibody that can be produced so that all copies are exactly alike

**Monomer**

A monomer is the starting molecule in polymerization. The monomers are joined into long molecular chains through the polymerization, resulting in a polymer with the monomer as the repeating unit

**Neurodegenerative disease**

Disease in which the nervous system atrophies

**Oligomer**

A molecular chain consisting of several monomers aggregated

**Orphan drugs**

Drugs for patients with rare and serious disease

**Pathogens**

Substances or organisms that cause disease or are toxic

**Peptide**

A molecule made up of amino acids connected into a short chain

**PET**

Positron emission tomography, an investigation imaging method

**Phase 1 study**

Studies mainly of the safety and tolerability of a drug. Performed on a limited number of healthy human volunteers or patients

**Phase 2 study**

Studies of the safety and efficacy of a drug and dose finding. Performed on a limited number of patients

**Phase 3 study**

Confirmatory studies of the safety and efficacy of a drug in a clinical setting. Performed on a large number of patients

**Preclinical phase**

Preclinical studies of drug candidates to prepare for clinical studies

**Preclinical studies**

Studies performed in model systems, i.e. not in humans

**Prodromal**

Early phase, before the disease has developed

**Product candidate**

A product under development that has not yet gained marketing approval

**Protofibrils**

A molecular chain consisting of several monomers aggregated

**Research phase**

Early research is focused on studying and elucidating the underlying molecular disease mechanisms and development of potential drug candidates

**The Swedish mutation**

A mutation in the amyloid precursor protein leading to increased production of A $\beta$  and early development of Alzheimer's disease. Discovered in a Swedish family in 1992 by Professor Lars Lannfelt and his research group



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