

# Q1

## Broadened project portfolio

### Business operations

#### *Significant events January-March 2017*

- Strong inhibitory effects demonstrated in human hepatocellular carcinoma cells and in an experimental model of liver cancer with the Company's new generation of sangliferin-based compounds in the NVP024 project.
- The business operations of the Taiwanese subsidiary were sold to the Taiwanese shareholders in order to reallocate research resources to the Parent Company.
- Collaboration agreement signed with a prestigious US research team in mitochondrial medicine for the NVP015 project focused on mitochondrial genetic disorders.
- The mitochondrial myopathy indication – new project added to the portfolio, NVP025. Collaboration agreement was signed with Karolinska University Hospital.

#### *Important events after the end of the period*

- The anti-fibrotic effects of NV556 in NASH were confirmed in an additional experimental model. The preclinical results were presented at the International Liver Congress™.
- A clinical development project for genetic mitochondrial disorders was in-licensed from Yungjin Pharm Corporation Ltd.

### Financial information

#### *First quarter (January-March 2017)*

- Net revenues were SEK 27,000 (0) and other operating income was SEK 63,000 (46,000)
- Loss before tax was SEK 21,390,000 (loss: 10,916,000)
- Loss per share\* was SEK 0.40 (loss: 0.35)
- Diluted loss per share\*\* amounted to SEK 0.40 (loss: 0.35)

\* Profit/loss for the period divided by average number of shares before dilution at the end of the period.

\*\* Profit/loss for the period divided by average number of shares after dilution at the end of the period

## Comments from our CEO, Erik Kinnman

**In early May, we were pleased to announce the signing of an in-licensing agreement with the South Korean pharmaceutical company Yungjin Pharm regarding a project for rare genetic mitochondrial disorders. The in-licensed drug candidate, KL1333, is well-suited to NeuroVive's cutting-edge expertise in mitochondrial disorders, as well as our own projects in this area. The project is also in line with NeuroVive's business model, which includes the proprietary development of orphan drug projects all the way from clinical development to marketing authorization.**

### **Preclinical results confirm anti-fibrotic effects of NV556 in NASH**

In April 2017, we reported that the previously observed inhibitory effects of the NV556 compound on fibrosis had been confirmed in another experimental model of non-alcoholic steatohepatitis (NASH). The results also demonstrated the prophylactic effect of NV556 on the development of liver tumors, which further increases the value of the project. Treatment for patients with advanced NASH represents a major unmet medical need.

### **High-profile scientific advisers appointed**

In February, we commenced research collaborations and announced the appointments of Professor Philippe Gallay and Professor Massimo Pinzani as scientific advisers to the company. The aim of the agreements is to further study NeuroVive's new molecular entities for the treatment of NASH and hepatocellular cancer. As experts on the underlying mechanisms of various hepatic diseases and clinical treatment, the advisers' scientific guidance will prove extremely valuable in the continued development of this part of our project portfolio.

### **Important steps in our other projects for mitochondrial genetic disorders**

At the beginning of the year, a preclinical collaboration agreement was signed with the Children's Hospital of Philadelphia (CHOP) and Marni J. Falk, M.D, a well-established researcher in the field of genetic mitochondrial disorders. Dr. Falk's research team at CHOP will evaluate compounds from our NVPO15 project in various advanced experimental models of disease, and study energy metabolism and disease progression in models of mitochondrial complex I dysfunction.

At the beginning of the year, we also signed a collaboration agreement with Karolinska University Hospital (KI) in Stockholm in the field of genetic mitochondrial disorders. The research team at KI, led by Professor Håkan Westerblad, will



study our NV556 compound in experimental models of mitochondrial myopathies.

### **Important results pending for the NeuroSTAT® drug candidate**

Within the first six months of this year, we are hoping to present results from our clinical project with NeuroSTAT's neuro-protective properties in traumatic brain injury (TBI), from both the completed preclinical efficacy study at the University of Pennsylvania (Penn) in the US, and the CHIC Phase II clinical trial at Copenhagen University Hospital in Denmark. The overall view of the results will show the way forward for the project and, given a positive outcome, the next step will be a Phase IIb trial to test the efficacy of NeuroSTAT in TBI patients.

### **New clinical project creates more opportunities and spreads risk**

NeuroVive's research is focused on the proprietary development of projects in mitochondrial medicine. Our business model is based on taking orphan drug candidates all the way to marketing authorization, and thereby building value. To maximize our potential, create synergies and spread risk in the project portfolio, we have now in-licensed a clinical project that we intend to develop alongside our clinical project in TBI and our earlier projects for genetic mitochondrial disorders. Our plan is to out-license projects for the more common indications NASH and hepatocellular cancer already at the preclinical phase. The risk-diversified portfolio will create revenue-stream opportunities for the company in the short term, while building value in the long term.

With all the exciting data being presented and our new addition to the project portfolio, we are looking forward to the continued development of our portfolio of promising research and development programs, with the aim of continuously building value for the company and all of our shareholders.

**Erik Kinnman**, CEO NeuroVive Pharmaceutical AB  
May 18, 2017

## Operations

NeuroVive is focused on the research and development of targeted drug candidates that maintain mitochondrial integrity and function for indications with a high unmet medical need. NeuroVive creates value in projects by working in partnerships and by networking with leading research institutions in mitochondrial medicine, as well as experts with resources in drug development and production. The drug development process is comprehensive and carefully regulated and, by collaborating with various partners, NeuroVive strives to make this process as cost-efficient and successful as possible.

### Business model creates value in therapies for rare and common diseases

NeuroVive is focused on research and development in mitochondrial medicine with the aim of helping patients for whom few, or no, treatment options are currently available.

The Company has a two-sided business model. The first component comprises proprietary drug development for rare diseases with a major unmet medical need, from clinical development to marketing authorization. The other component comprises projects for common diseases with high commercial potential, where the Company develops drug candidates for out-licensing at the preclinical phase.

### PROJECTS FOR CLINICAL DEVELOPMENT

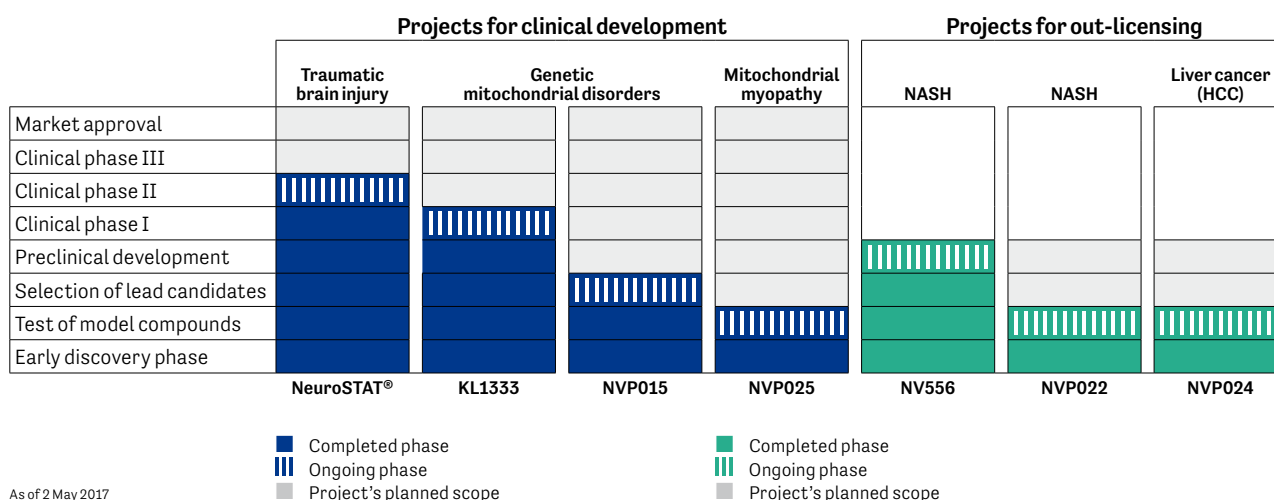
#### Traumatic brain injury (TBI)

Traumatic brain injury (TBI) is caused by external violence to the head resulting in immediate damage to nerve cells. The damage continues to worsen for several days after the trauma which, in many cases, has a significantly adverse effect on the overall injury. At present, there are no approved treatments for the prevention of these secondary injuries. In the US, some 2.2 million people are affected annually, causing more than 50,000 deaths and 280,000 hospitalizations. The direct and indirect costs associated with TBI are an estimated USD 60 billion, and many patients suffer moderate to severe functional disabilities requiring intensive care and various forms of support ([www.nih.gov](http://www.nih.gov)). The hope is that better preventive therapies for secondary brain damage, such as NeuroSTAT, will lead to higher survival rates, and significantly improve quality of life and neurological function of patients post-TBI.

#### NeuroSTAT®

In collaboration with the University of Pennsylvania (Penn), NeuroVive is evaluating the prophylactic efficacy of NeuroSTAT in an experimental TBI model. The three substudies were successfully conducted and completed. Positive results from the first substudies show that NeuroSTAT crosses the blood-brain barrier and that concentration levels in

## Project overview



As of 2 May 2017

the blood and brain are achieved. An analysis of the third and final substudy, which studied the efficacy of NeuroSTAT in a TBI model, is ongoing and a presentation of the results is expected by mid-2017.

These preclinical studies will demonstrate how NeuroSTAT works in the treatment of TBI, and how the effect can be measured. These results will form the basis for the further clinical development program. The results will be used to supplement the ongoing Copenhagen Head Injury Cyclosporin (CHIC) Phase II clinical trial where NeuroSTAT is being assessed in conjunction with clinical treatment of patients. Project costs for the continued clinical development of NeuroSTAT will only be financed with external funds from major international institutions or, alternatively, via commercial partners.

The results of the CHIC clinical trial are expected by mid-2017. The primary endpoint of the CHIC trial is to assess the safety and pharmacokinetics of NeuroSTAT in the blood and cerebrospinal fluid of patients with severe traumatic brain injury (TBI) based on two different dosage regimens. Secondly, exploratory measurements will be carried out to evaluate the efficacy of NeuroSTAT at mitochondrial level, and how NeuroSTAT affects various biochemical processes following a brain injury. More information about the trial is available in the public ClinicalTrials.gov database.

### Genetic mitochondrial disorders

*Genetic mitochondrial disorders are congenital metabolic diseases that affect cellular energy conversion. The disorders can manifest differently depending on which organs are affected by the gene defects and are viewed as syndromes, depending on the organs affected and the signs and symptoms.*

*An estimated 12 in every 100,000 people suffer from a mitochondrial disease. Mitochondrial disorders usually present in early childhood. All projects (KL1333, NVP015, and NVP025) may qualify for orphan drug designation in the US and Europe prior to clinical development, enabling a faster and less costly route to market, and higher pricing. In 2016, the orphan drug market amounted to USD 114 billion and the average annual cost for the treatment of a single patient was an estimated USD 140,443 (just over SEK 1,3 million).<sup>1)</sup>*

1 Evaluate Pharma Orphan Drug Report 2017

### KL1333

After the end of the period, the Company announced that the KL1333 clinical development project had been in-licensed from the Korean pharmaceutical company Yungjin Pharm Corporation Ltd. The KL1333 compound is being developed for the treatment of rare genetic mitochondrial disorders.

Under the agreement, NeuroVive has acquired exclusive rights to the global development and commercialization of KL1333, except in Korea and Japan for which Yungjin Pharm has retained all commercialization and marketing rights. NeuroVive will pay an upfront fee of USD 1 million to Yungjin Pharm upon signing the agreement, USD 1 million one year after signing and another USD 1 million after a successful Phase I clinical trial. Further payments will be made in conjunction with the successful achievement of various clinical milestones (a total of USD 12 million), and of milestones linked to marketing authorization, pricing and reimbursement (a total of USD 42 million). In addition, Yungjin Pharm is entitled to payments linked to sales milestones and tiered, from single to low double-digit, royalty rates on future net sales. Both companies will be developing KL1333 in their own territories, primarily for the treatment of genetic mitochondrial disorders.

An application for a Korean Phase I clinical trial has been approved by the Korean authorities and is scheduled to commence within a couple of months, led by Yungjin Pharm. NeuroVive is planning to initiate a supplementary European and/or US-based Phase I trial in early 2018.

### About KL1333

*KL1333 is a powerful regulator of cellular NAD levels+, a coenzyme central to cellular metabolism. In preclinical studies, KL1333 has been shown to increase mitochondrial energy production, reduce lactate accumulation, prevent the formation of free radicals and have long-lasting positive effects on energy metabolism. The drug candidate is now ready for clinical trials and has been developed for chronic oral treatment of the symptoms and effects of genetic mitochondrial disorders such as MELAS, KSS, CPEO, PEO, Pearson, MERRF and Alpers syndrome. Its mechanism of action complements NVP015, which is intended to provide support during acute energy crises for genetic mitochondrial disorders with Complex I Dysfunction, and NVP025, which is intended to protect the mitochondria in skeletal muscles from improper calcium handling and subsequent muscular dystrophy.*

### NVP015 – Complex 1 Dysfunction

Results from experimental studies of the novel series of prodrugs developed by researchers at NeuroVive and Isomerase show that these compounds demonstrate good stability in the bloodstream and uptake by target organs such as muscle tissue. The results also demonstrate metabolism in the mitochondrion, which is an important milestone for the project. The most promising compounds from this series are currently undergoing further testing in various experimental models and the selection of a lead candidate is expected by the second half of 2017.

In January 2017, a preclinical collaboration agreement was signed with the Children's Hospital of Philadelphia (CHOP) and Marni J. Falk, M.D, a well-established researcher in the field of genetic mitochondrial disorders. Dr. Falk's research team at CHOP is evaluating compounds from NVP015 in various advanced experimental models of disease, and studying energy metabolism and disease progression in models of mitochondrial Complex I Dysfunction. Marni J. Falk is an Attending Physician and Director of the Mitochondrial Disease Clinical Center at CHOP, a major center for children and adults with mitochondrial disorders, and a leader in this field of research. Dr. Falk's experience ranges from early-phase research to clinical development, with expertise across the entire drug development spectrum. CHOP is one of the largest children's hospitals in the world and one of the highest-ranked children's hospitals in the US.

#### About NVP015

One of the most common causes of mitochondrial diseases relates to Complex I Dysfunction, i.e. when energy conversion in the first of the five protein complexes in the mitochondrion that are essential for effective energy conversion does not function normally. This is apparent in disorders including Leigh's Syndrome and MELAS, both of which are very serious diseases with symptoms such as muscle weakness, epileptic fits and other severe neurological manifestations. The NVP015 project is based on a concept instigated by NeuroVive's CSO Dr. Eskil Elmér and his colleagues by which the body's own energy substrate, succinate, is made available in the cell via a prodrug technology. A prodrug is an inactive drug that is activated first when it enters the body by the transformation of its chemical structure. Results from the NVP015 project were published in the prestigious *Nature Communications*<sup>1)</sup> journal in August 2016.

1) Ehinger JK et al. (2016) Nat. Commun.7:12317

#### **NVP025 – Mitochondrial myopathies**

In January 2017, a collaboration agreement was also signed with Karolinska University Hospital in Stockholm regarding the development of a therapeutic option for mitochondrial myopathies. Under the collaboration agreement, the research team at Karolinska University Hospital, headed by Professor Håkan Westerblad, will be using NeuroVive's cyclophilin inhibitor NV556 as a model compound and studying its effects in experimental models of mitochondrial myopathy. The research team at Karolinska University Hospital has previously published results<sup>1)</sup> showing that another cyclophilin inhibitor, cyclosporine, exhibits mitochondrial protective effects by inhibiting cyclophilin D and thus preventing muscle fiber weakness in an experimental model of mitochondrial myopathy. They have also demonstrated that

patients with mitochondrial myopathy have elevated levels of cyclophilin D, the target molecule for NeuroVive's NV556 compound. NV556 is expected to have a higher specificity and tolerability profile than cyclosporine, which may facilitate dosing. The NV556 model compound being studied in this partnership has cyclophilin D as its target molecule and therefore a different and complementary mechanism of action compared with NVP015 compounds, which target the respiratory chain of the cell's energy production.

#### About mitochondrial myopathies

*Mitochondrial myopathies are a group of neuromuscular diseases caused by mitochondrial genetic disorders. Some of the more common mitochondrial myopathies include Kearns-Sayre syndrome, MERRF syndrome (myoclonus epilepsy with ragged-red fibers), and MELAS (mitochondrial encephalomyopathy with lactic acidosis and stroke-like episodes). The symptoms of mitochondrial myopathies include muscle weakness, exercise intolerance and fatigue, and are often accompanied by other symptoms of genetic mitochondrial disorders such as heart failure or rhythm disturbances, dementia, movement disorders, stroke-like episodes, deafness, blindness, droopy eyelids, limited mobility of the eyes, vomiting, and seizures. The prognosis for these disorders ranges in severity from progressive weakness to death.2) There is a high unmet medical need of new and effective treatment options for mitochondrial myopathy.*

- 1) Cyclophilin D, a target for counteracting skeletal muscle dysfunction in mitochondrial myopathy. Westerblad H. et al. Human Molecular Genetics, 2015, Vol.24, No 23; 6580-6587.
- 2) [http://www.ninds.nih.gov/disorders/mitochondrial\\_myopathy/mitochondrial\\_myopathy.htm](http://www.ninds.nih.gov/disorders/mitochondrial_myopathy/mitochondrial_myopathy.htm)

#### **PROJECTS FOR OUT-LICENSING**

##### **Non-alcoholic steatohepatitis (NASH)**

*NASH – non-alcoholic steatohepatitis – is a progressive disease that can develop into liver cirrhosis or hepatocellular cancer (HCC). Liver damage in NASH is caused by fat accumulation and inflammatory changes in the liver. NASH is a form of NAFLD (non-alcoholic fatty liver disease), which is one of the most common conditions worldwide. An estimated 20% of the global population suffers from NAFLD, and about one-third of the population in the US. There is a strong association between NASH and a variety of metabolic syndromes like diabetes and obesity. Approximately 3-5% of Americans (about 15 million people) suffer from NASH and there are currently no registered drugs for the treatment of this condition.<sup>1)</sup>*

- 1) Vernon G. et al. Aliment Pharmacol Ther. 2011;34(3): 274-85

### NV556 and NVP022

After the end of the period, the Company announced that the previously observed anti-fibrotic effects of the NV556 compound had been confirmed in another preclinical model for NASH, the MCD model, which strengthens and confirms previous data.

New data was also presented from the STAM™ model, in which the first studies were conducted. The new results demonstrated that long-term treatment with NV556 is well-tolerated and significantly reduces liver weight gain, which is an indicator of reduced tumor burden. In addition, there was a trend that NV556 reduced the number and size of surface liver tumors. The results were presented at the International Liver Congress™ in Amsterdam on April 19-23, 2017.

Efforts are currently ongoing to confirm the collected data, and to compile a package for the initiation of out-licensing activities for NV556 in mid-2017.

In addition to NV556, NeuroVive is also developing a new class of compounds with a different mechanism of action, that may serve as complementary treatment for NASH, NVP022. The NVP022 project is based on NeuroVive's core expertise in mitochondrial energy regulation, combined with the expertise of its partner company, Isomerase, in innovative chemistry.

In February 2017, the Company appointed Professor Massimo Pinzani, MD, PhD, FRCP as its scientific adviser, and signed a collaboration agreement. Massimo Pinzani will primarily be evaluating the anti-fibrotic properties of NV556 in advanced human 3D liver models. These models will enable the evaluation and validation of effects under adequate pathophysiological conditions.

### Hepatocellular carcinoma (HCC)

*Liver cancer is often diagnosed at a late stage of the disease and mortality rates are high. There are two major types of liver cancer: hepatocellular carcinoma (HCC) and intrahepatic bile duct cancer. Various hepatitis virus infections can increase the risk of liver cancer. Patients with liver cirrhosis caused by alcoholism or fatty liver (non-alcoholic steatohepatitis, NASH) are at greater risk of developing hepatocellular cancer. Although liver cancer is less common in northern Europe and the US, HCC is the sixth most-common type of cancer and the third most-common cause of death worldwide.<sup>1,2)</sup> While surgery, chemotherapy and radiotherapy are important starting points for the treatment of liver tumors, there is a major medical need for more, and effective, complementary medical treatments to increase the survival rate for people with liver cancer.<sup>3)</sup>*

- 1) Altekruse SF, McGlynn KA, Reichman ME: Hepatocellular Carcinoma Incidence, Mortality, and Survival Trends in the United States From 1975 to 2005. *J Clin Oncol* 27(9):1485-91, 2009.
- 2) Forner A, Llovet JM, Bruix J: Hepatocellular carcinoma, *Lancet* 379 (9822):1245-55,2012.
- 3) <http://www.cancerresearchuk.org/helath-professional/cancer-statistics/statistics-by-cancer-type/liver-cancer/Incidence#heading-Nine>

### NVP024

In partnership with Isomerase, NeuroVive's research team has demonstrated that the Company's sangliferhrin-based compounds exhibit powerful anticancer activity in preclinical models of HCC. In February 2017, the project participated in the EASL (European Association for the Study of the Liver) HCC Summit in Geneva, Switzerland, with a poster presentation. The results presented show that a new model compound, in which the anticancer effect is optimized, demonstrates an up to 500-fold greater inhibitory effect on human hepatocellular cancer cells (in vitro) compared with the existing cancer drug sorafenib (registered for the treatment of advanced HCC). In addition, this class of compounds demonstrates anticancer activity in a preclinical experimental (in vivo) model of HCC, after both oral and intraperitoneal administration. The compounds exhibit no toxicity in normal cells and are well-tolerated in vivo.

In February 2017, the Company appointed Professor Philippe Gallay, PhD as its scientific adviser and signed a collaboration agreement. Philippe Gallay will primarily be studying the mechanism of the powerful anticancer action of NeuroVive's new sangliferhrin-based compounds. These studies will play an important role in NeuroVive's selection of a lead candidate for the HCC project.

### NeuroVive Pharmaceutical Asia, Inc. subsidiary

In January 2017, it was announced that research resources and activities in the Taiwan-based subsidiary would be redirected to the Parent Company, NeuroVive Pharmaceutical AB. The operations in Taiwan have been sold to the current Taiwanese shareholders. Under the agreement, NeuroVive Pharmaceutical AB will receive about SEK 5 million before administrative expenses. In addition, NeuroVive and its partner Foundation Asia Pacific Ltd., will reacquire the Hong Kong-based subsidiary, NeuroVive Pharmaceutical Asia Ltd., which holds the Asian license rights for NeuroSTAT and agreements with the Chinese pharmaceutical company Sihuan Pharmaceutical and Sanofi Korea. The Hong Kong-based company will be owned jointly by NeuroVive Pharmaceutical AB (about 82.5%) and Foundation Asia Pacific Ltd. (about 17.5%). Under the agreement, other assets, which were previously licensed to NeuroVive's Asian company, will be transferred to NeuroVive Pharmaceutical AB.

## Financial information

### Revenues

The consolidated turnover during the first quarter of 2017 was SEK 27,000 (0). Other operating revenues for the first quarter of 2017 were SEK 63,000 (46,000).

### Results of operations

The operating loss for the first quarter was SEK 21,232,000 (10,938,000). The net loss before tax for the first quarter amounted to SEK 21,390,000 (10,916,000).

The operating loss was affected by external expenses, which for the first quarter were SEK 6,733,000 (7,379,000). Expenses related to development projects have affected the result during the fourth quarter with SEK 2,632,000 (2,395,000). These expenses relate to development projects that have not reached phase I. Personnel expenses during the first quarter amounts to SEK 3,377,000 (3,269,000). Other operating expenses amount to, SEK 11,009,000 (77,000) whereof SEK 10,981,000 relates to disposal of subsidiary. The company has sold its shares in the Asian subsidiary and, together with its collaboration partner Foundation Asia Pacific Ltd., reacquired the Hong Kong-based subsidiary, NeuroVive Pharmaceutical Asia Ltd., which holds the Asian territorial licensing rights for NeuroSTAT and the agreements with the Chinese pharmaceutical company Sihuan Pharmaceutical and Sanofi Korea. The Hong Kong company is owned by NeuroVive Pharmaceutical AB 82.47% and Foundation Asia Pacific Ltd. 17.5%. Other assets, previously licensed to NeuroVive's Asian company, were transferred to NeuroVive Pharmaceutical AB. In addition to license assets, the Company received approximately SEK 5 million before administrative expenses. The remaining portion of other operating expenses pertains to exchange-rate losses.

### Financial position

The equity/assets ratio was 95 (88) % as of 31 March 2017, and equity was SEK 146,932,000 (168,304,000) compared to beginning of the year. Cash and cash equivalents amounted to SEK 67,289,000 (78,749,000) as of 31 March 2017, a decrease of SEK 25,962,000 from the beginning of the year. Total assets as of 31 March 2017 were SEK 154,884,000 (169,765,000). The Board of Directors works continuously to secure the business operation's need for financing. Management is actively pursuing various financing alternatives to secure long term financing of the Company.

### Cash flow and investments

Operating cash flow for the first quarter was SEK -13,304,000 (-15,326,000). The cash flow effect rela-

ted to investments in intangibles equals SEK -1,455,000 (-1,760,000) for the first quarter. The disposal of shares in the Asian subsidiary has affected cash flow by SEK -11 035 M (0). Cash flow for the first quarter equals SEK -25,834,000 (-17,651,000).

### Transactions with related parties

Transactions between the company and its subsidiaries, which are related parties to the company, have been eliminated on consolidation, and accordingly, no disclosures are made regarding these transactions. Disclosures regarding transactions between the group and other related parties are stated below.

Apart from remuneration to senior managers including remuneration for consulting services, no purchases or sales between the group and related parties occurred. Transactions with related parties affecting profit/loss for the period are stated below.

(SEK 000)	1 Jan. 2017 31 Mar. 2017	1 Jan. 2016 31 Mar. 2016
Stanbridge bvba (owned by Gregory Batcheller, Executive Chairman)	301	294
Ankor Consultants bvba (owned by Arne Ferstad, Board member)	-	73
<b>Total transactions with related parties</b>	<b>301</b>	<b>367</b>

### Segment information

Financial information reported to the chief operating decision maker (CEO) as the basis for allocating resources and judging the group's profit or loss is not divided into different operating segments. Accordingly, the group consists of a single operating segment.

### Financial instruments

NeuroVive holds unlisted securities, classified as "financial assets available for sale." These assets are measured at fair value through other comprehensive income on an ongoing basis. However, when the fair value of these securities cannot be reliably measured, they are recognized at cost. Other financial assets are classified as "loans and receivables," which are measured at amortized cost. The carrying amount of this category is estimated to correspond to fair value.

### Human resources

The average number of employees of the group for the period January to March was 12 (11), of which 6 (7) are women.

### Parent company

In connection with the sale of the Asian subsidiary and the reacquisition of the Hong Kong company, a positive result from shares in Group companies amounted to SEK 7,652,000. Company earnings after tax for the first quarter amounts to SEK -2,330,000 (-9, 764,000). Most of the Group's operations are conducted within the parent company. Accordingly, no further specific information regarding the parent company is presented.

### Risks and uncertainty factors

A research company such as NeuroVive Pharmaceutical AB (publ) is subject to high operational and financial risks because the projects the company conducts are in different developmental phases, where a number of parameters influence the likelihood of commercial success. Briefly, operations are associated with risks relating to factors including drug development, competition, technological progress, patents, regulatory requirements, capital requirements, currencies and interest rates. The Board of Directors works continuously to secure the business operation's need for financing. A way to spread risks is to out-license projects directed towards larger indications already in the pre-clinical phase, while orphan indication projects are developed by the company up until market registration. With exception for the decision to terminate the continued development of CicloMulsion, no significant changes in relation to risk or uncertainties occurred during the current period.

In March 2013, CicloMulsion AG commenced arbitration seeking declaratory relief with regard to royalties to be allegedly paid by the Company under a 2004 License Agreement with the Company as well as certain other claims relating to the Company's obligations under the License Agreement. As previously reported, on May 25, 2016, the Tribunal rendered a partial award. The Tribunal held, inter alia, that the Company is obliged to pay, subject to the terms of the License Agreement, future royalties on product sales in certain countries while other claims were dismissed. Regarding the obligation of the Company to pay royalties in other countries, the Arbitral Tribunal reserved its decision for a final award. The arbitration proceeding is continued in this respect but currently suspended by the Arbitral Tribunal due to appeals initiated by each party at the competent Swedish court in Skane. The appeal filed by CicloMulsion AG is mainly based on an alleged infringement of its right to be heard and the Company's appeals refers to an infringement of both its right to be heard and mandatory law. With regard to the latter the Company relies on a recent decision of the European Court of Justice on the impact of European competition law on license agreements, including the obligation to pay royalties. This decision was issued after the partial award was rendered by

the Arbitral Tribunal. So far there are no indications as to the prospects of these appeals.

For more detail of risks and uncertainty factors, refer to the Statutory Administration Report in the Annual Report 2015 and the prospectus published 14 April 2016 for the share issue in April/May 2016.

### Incentive programs/share warrants

Currently there is no incentive program.

### Audit review

This Interim Report has not been subject to review by the company's auditors.

### Upcoming financial statements

Interim Report Jan-Jun 2017	17 August 2017
Interim Report Jan - Sept 2017	21 November 2017
Year-End Report 2017	20 February 2018

The interim reports and the Annual Year Report are available at [www.neurovive.com](http://www.neurovive.com)

### Principles of preparation of the Interim Report

NeuroVive prepares its consolidated accounts in accordance with International Financial Reporting Standards (IFRS) issued by the International Accounting Standards Board (IASB) and interpretation statements from the IFRS Interpretations Committee, as endorsed by the EU for application within the EU. This Interim Report has been prepared in accordance with IAS 34 Interim Financial Reporting.

The parent company applies the Swedish Annual Accounts Act and RFR's (the Swedish Financial Reporting Board) recommendation RFR 2 Accounting for Legal Entities. Application of RFR 2 implies that, as far as possible, the parent company applies all IFRS endorsed by the EU within the limits of the Swedish Annual Accounts Act and the Swedish Pension Obligations Vesting Act, and considering the relationship between accounting and taxation.

The group and parent company have applied the same accounting principles as described in the Annual Report for 2016 on pages 48-61.

New and revised standards and interpretation statements applicable from 1 January 2017 onwards did not have any effect on the group or parent company's results of operations or financial position.



## Consolidated Statement of Comprehensive Income

(SEK 000)	Note	1 Jan, 2016 31 Dec, 2016	1 jan, 2015 31 dec, 2015	1 jan, 2016 31 dec, 2016
Net sales		27	-	14
Other operating income		63	46	104
		<b>90</b>	<b>46</b>	<b>118</b>
<i>Operating expenses</i>				
Other external expenses		-6,733	-7,379	-34,168
Personnel cost		-3,377	-3,269	-15,276
Depreciation and write-down of tangible and intangible assets		-204	-259	-1,121
Other operating expenses		-11,009	-77	-21,663
		<b>-21,322</b>	<b>-10,984</b>	<b>-72,228</b>
<b>Operating income</b>		<b>-21,232</b>	<b>-10,938</b>	<b>-72,110</b>
<i>Profit/loss from financial items</i>				
Result from shares in associated company		-	-	28
Financial income		35	70	432
Financial costs		-193	-48	-195
		<b>-158</b>	<b>22</b>	<b>265</b>
<b>Profit/loss before tax</b>		<b>-21,390</b>	<b>-10,916</b>	<b>-71,845</b>
Income tax	2	-	-	-
		<b>-21,390</b>	<b>-10,916</b>	<b>-71,845</b>
<i>Other comprehensive income</i>				
Items that may be reclassified to profit or loss				
Translation differences on foreign subsidiaries		18	-264	-
<b>Total comprehensive income for the period</b>		<b>-21,372</b>	<b>-11,180</b>	<b>-71,845</b>
<i>Loss for the period attributable to:</i>				
Parent company shareholders		-16,591	-10,586	-70,241
Non-controlling interests		-4,799	-330	-1,604
		<b>-21,390</b>	<b>-10,916</b>	<b>-71,845</b>
<i>Total comprehensive income for the period</i>				
Parent company shareholders		-16,583	-10,809	-71,845
Non-controlling interests		-4,789	-371	-
		<b>-21,372</b>	<b>-11,180</b>	<b>-71,845</b>
Earnings per share before and after dilution(SEK) based on average number of shares		-0.40	-0.35	-1.67

## Consolidated Statement of Financial Position

(SEK 000)	Note	31 Mar, 2017	31 Mar, 2016	31 dec, 2016
<b>ASSETS</b>				
<b>Non-current assets</b>				
<i>Intangible assets</i>				
	1			
Development costs		52,110	62,962	51,255
Patents		18,812	13,378	17,979
Other Intangible assets		1,848	2,031	1,917
		<b>72,770</b>	<b>78,371</b>	<b>71,151</b>
<i>Tangible assets</i>				
Equipment		196	285	274
		<b>196</b>	<b>285</b>	<b>274</b>
<i>Financial assets</i>				
Other long-term securities		13,102	6,810	13,102
Other long-term receivables		-	131	118
		<b>13,102</b>	<b>6,941</b>	<b>13,220</b>
<b>Total non-current assets</b>		<b>86,068</b>	<b>85,597</b>	<b>84,645</b>
<b>Current assets</b>				
Other receivables		957	1,629	1,650
Prepaid expenses and accrued income		569	3,791	1,171
Cash and cash equivalents		67,289	78,749	93,251
		<b>68,816</b>	<b>84,169</b>	<b>96,072</b>
<b>TOTAL ASSETS</b>		<b>154,884</b>	<b>169,766</b>	<b>180,717</b>
<b>EQUITY AND LIABILITIES</b>				
<b>Equity attributable to the shareholders of the parent company</b>				
Share capital		2,473	1,574	2,473
Additional paid in capital		418,339	341,907	418,339
Translation reserve		788	-413	780
Retained earnings		-279,603	-206,491	-266,146
Total equity attributable to the shareholders of the parent		141,997	136,577	155,446
Non-controlling interests		4,935	13,280	12,858
<b>Total equity</b>		<b>146,932</b>	<b>149,857</b>	<b>168,304</b>
<b>Short-term liabilities</b>				
Accounts payable		1,653	5,555	6,000
Other liabilities		2,750	560	483
Accrued expenses and deferred income		3,549	13,794	5,930
		<b>7,952</b>	<b>19,909</b>	<b>12,413</b>
<b>Total liabilities</b>		<b>7,952</b>	<b>19,909</b>	<b>12,413</b>
<b>TOTAL EQUITY AND LIABILITIES</b>		<b>154,884</b>	<b>169,766</b>	<b>180,717</b>

## Consolidated Statement of Changes in Equity

(SEK 000)

	Equity attributable to the shareholders of the parent company					Non-controlling interests	Total equity
	Share-capital	Additional paid in capital	Translation reserve	Retained earnings	Total		
<b>Opening balance, 1 January 2017</b>	<b>2,473</b>	<b>418,339</b>	<b>780</b>	<b>-266,146</b>	<b>155,446</b>	<b>12,858</b>	<b>168,304</b>
<b>Comprehensive profit/loss for the period</b>							
Profit/loss for the period	-	-	-	-16,591	-16,591	-4,799	-21,390
Other comprehensive income							
Translation differences	-	-	8	-	8	10	18
Other comprehensive profit/loss for the period, net after tax	-	-	8	-	8	10	18
<b>Total comprehensive profit/loss</b>	<b>-</b>	<b>-</b>	<b>8</b>	<b>-16,591</b>	<b>-16,583</b>	<b>-4,789</b>	<b>-21,372</b>
<b>Transactions with shareholders</b>							
Change of ownership in share issue	-	-	-	3,134	3,134	-3,134	-
Total transactions with shareholders	-	-	-	3,134	3,134	-3,134	-
<b>Closing balance, 31 March 2017</b>	<b>2,473</b>	<b>418,339</b>	<b>788</b>	<b>-279,603</b>	<b>141,997</b>	<b>4,935</b>	<b>146,932</b>
<b>Opening balance, 1 January 2016</b>	<b>1,537</b>	<b>335,687</b>	<b>-190</b>	<b>-195,906</b>	<b>141,128</b>	<b>13,651</b>	<b>154,779</b>
<b>Comprehensive profit/loss for the period</b>							
Profit/loss for the period	-	-	-	-10,586	-10,586	-330	-10,916
Other comprehensive income							
Translation differences	-	-	-223	-	-223	-41	-264
<b>Other comprehensive profit/loss for the period, net after tax</b>	<b>-</b>	<b>-</b>	<b>-223</b>	<b>-</b>	<b>-223</b>	<b>-41</b>	<b>-264</b>
<b>Total comprehensive profit/loss</b>	<b>-</b>	<b>-</b>	<b>-223</b>	<b>-10,586</b>	<b>-10,809</b>	<b>-371</b>	<b>-11,180</b>
Transactions with shareholders							
New share issue	37	6,220	-	-	6,257	-	6,257
Issue through non-controlling interest	-	-	-	-	-	-	-
<b>Total transactions with shareholders</b>	<b>37</b>	<b>6,220</b>	<b>-</b>	<b>-</b>	<b>6,257</b>	<b>-</b>	<b>6,257</b>
<b>Closing balance, 31 March 2016</b>	<b>1,574</b>	<b>341,907</b>	<b>-413</b>	<b>-206,491</b>	<b>136,577</b>	<b>13,280</b>	<b>149,857</b>

## Consolidated Statement of Cash Flows

(SEK 000)	1 Jan, 2017 31 Mar, 2017	1 Jan, 2016 31 Mar, 2016	1 jan, 2016 31 dec, 2016
<b>Cash flow from operating activities</b>			
Operating income	-21,232	-10,938	-72,110
<i>Adjustments for non-cash items:</i>			
Depreciation	204	259	1,121
Currency differences on intercompany items	121	-3	48
Impaired Value	-	-	21,035
Disposal of Business	10,981	-	7
Result from shares in associated company	-	-	28
Interest received	35	70	363
Interest paid	-193	-48	-126
<b>Net cash from operating activities before changes in working capital</b>	<b>-10,084</b>	<b>-10,660</b>	<b>-49,634</b>
<i>Changes in working capital</i>			
Increase/decrease of other current assets	691	-2,710	-19
Increase/decrease of other short-term liabilities	-3,911	-1,956	-7,824
<b>Changes in working capital</b>	<b>-3,220</b>	<b>-4,666</b>	<b>-7,843</b>
<b>Cash flow from operating activities</b>	<b>-13,304</b>	<b>-15,326</b>	<b>-57,477</b>
<i>Investing activities</i>			
Acquisition of intangible assets	-1,455	-1,760	-18,052
Acquisition of tangible assets	-40	-13	-139
Disposal business	-11,035	-	-
Increase in other financial assets	-	-553	-6,844
<b>Cash flow from investing activities</b>	<b>-12,530</b>	<b>-2,326</b>	<b>-25,036</b>
<i>Financing activities</i>			
New share issue	-	-	77,332
<b>Cash flow from financing activities</b>	<b>-</b>	<b>-</b>	<b>77,332</b>
Cash flow for the period	-25,834	-17,651	-5,180
Cash and cash equivalents at the beginning of the period	93,251	96,662	96,662
Effect of exchange rate changes on cash	-128	-262	1,769
<b>Cash and cash equivalents at end of period</b>	<b>67,289</b>	<b>78,749</b>	<b>93,251</b>

## Parent Company Income Statement

(SEK 000)	Note	1 Jan, 2017 31 Mar, 2017	1 Jan, 2016 31 Mar, 2016	1 Jan, 2016 31 Dec, 2016
Net sales		27	-	30
Other operating income		63	46	104
		<b>90</b>	<b>46</b>	<b>134</b>
<i>Operating expenses</i>				
Other external expenses		-6,667	-6,896	-31,521
Personnel cost		-3,150	-2,639	-12,495
Depreciation and write-down of tangible and intangible assets		-194	-231	-1,006
Other operating expenses		-28	-77	-21,660
		<b>-10,039</b>	<b>-9,843</b>	<b>-66,683</b>
<b>Operating income</b>		<b>-9,949</b>	<b>-9,797</b>	<b>-66,548</b>
<i>Profit/loss from financial items</i>				
Result from shares in group company		7,652	-	-20,880
Result from shares in associated company		-	-	29
Interest income and other similar profit items		15	49	288
Interest expenses and other similar loss items		-48	-16	-7
		<b>7,619</b>	<b>33</b>	<b>-20,570</b>
<b>Profit/loss before tax</b>		<b>-2,330</b>	<b>-9,764</b>	<b>-87,118</b>
Income tax	2	-	-	-
<b>Profit/loss for the period</b>		<b>-2,330</b>	<b>-9,764</b>	<b>-87,118</b>

## Statement of Comprehensive Income, Parent Company

(SEK 000)	Note	1 Jan, 2017 31 Mar, 2017	1 Jan, 2016 31 Mar, 2016	1 Jan, 2016 31 Dec, 2016
Profit/loss for the period		-2,330	-9,764	-87,118
Other comprehensive income		-	-	-
<b>Total comprehensive profit/loss for the period</b>		<b>-2,330</b>	<b>-9,764</b>	<b>-87,118</b>

## Parent Company Balance Sheet

(SEK 000)	Note	31 Mar, 2017	31 Mar, 2016	31 Dec, 2016
<b>ASSETS</b>				
<b>Non-current assets</b>				
<i>Intangible assets</i>				
	1			
Development costs		51,875	62,727	51,020
Patents		18,812	13,378	17,979
Other intangible assets		1,848	1,983	1,881
		<b>72,535</b>	<b>78,088</b>	<b>70,881</b>
<i>Tangible assets</i>				
Equipment		196	211	221
		<b>196</b>	<b>211</b>	<b>221</b>
<i>Financial assets</i>				
Other long-term placement		13,102	6,810	13,102
Shares in subsidiaries	3	23,099	41,750	20,870
		<b>36,201</b>	<b>48,560</b>	<b>33,972</b>
<b>Total non-current assets</b>		<b>108,933</b>	<b>126,859</b>	<b>105,074</b>
<b>Current assets</b>				
<i>Short term receivables</i>				
Receivables from group companies		5,423	11	7
Other receivables		980	1,618	1,643
Prepaid expenses and accrued income		569	3,751	515
		<b>6,972</b>	<b>5,380</b>	<b>2,165</b>
<i>Cash and bank balances</i>				
		60,782	58,963	75,954
<b>Total current assets</b>		<b>67,753</b>	<b>64,343</b>	<b>78,119</b>
<b>TOTAL ASSETS</b>		<b>176,686</b>	<b>191,201</b>	<b>183,193</b>
<b>EQUITY AND LIABILITIES</b>				
<b>Equity</b>				
<i>Restricted equity</i>				
Share capital		2,473	1,574	2,473
Statutory reserve		1,856	1,856	1,856
Development expenditure reserve		10,778	3,159	9,924
		<b>15,108</b>	<b>6,589</b>	<b>14,253</b>
<i>Unrestricted equity</i>				
Share premium reserve		-	125,646	82,653
Retained earnings		157,114	49,772	162,434
Profit/loss for the period		-2,330	-9,764	-87,118
		<b>154,784</b>	<b>165,655</b>	<b>157,969</b>
<b>Total equity</b>		<b>169,892</b>	<b>172,244</b>	<b>172,222</b>
<b>Short-term liabilities</b>				
Accounts payable		1,653	4,607	5,582
Other liabilities		1,591	557	473
Accrued expenses and deferred income		3,549	13,794	4,916
		<b>6,794</b>	<b>18,958</b>	<b>10,971</b>
<b>TOTAL EQUITY AND LIABILITIES</b>		<b>176,686</b>	<b>191,201</b>	<b>183,193</b>

## Notes

### Note 1 – Intangible assets

(SEK 000)	Development costs	Patents*	Other	Total
<b>ACCUMULATED COST</b>				
Opening balance 1 Jan. 2017	51,255	24,349	2,899	78,503
Additions	855	968	-	1,823
Impaired value	-	-	-	-
<b>Closing balance 31 Dec. 2016</b>	<b>52,110</b>	<b>25,317</b>	<b>2,899</b>	<b>80,326</b>
<b>ACCUMULATED DEPRECIATION</b>				
Opening balance 1 Jan. 2016	-	-6,370	-982	-7,352
Depreciation for the period	-	-135	-69	-204
<b>Closing balance 31 Mar. 2017</b>	<b>-</b>	<b>-6,505</b>	<b>-1,051</b>	<b>-7,556</b>
<b>Residual value 31 Mar. 2017</b>	<b>52,110</b>	<b>18,812</b>	<b>1,848</b>	<b>72,770</b>

(SEK 000)	Development costs	Patents*	Other	Total
<b>ACCUMULATED COST</b>				
Opening balance 1 Jan. 2016	59,803	18,193	2,899	80,895
Additions	12,487	6,156	-	18,643
Impaired value	-21,035	-	-	-21,035
<b>Closing balance 31 Dec. 2016</b>	<b>51,255</b>	<b>24,349</b>	<b>2,899</b>	<b>78,503</b>
<b>ACCUMULATED DEPRECIATION</b>				
Opening balance 1 Jan. 2016	-	-5,170	-821	-5,991
Depreciation for the period	-	-1,200	-161	-1,361
<b>Closing balance 31 Dec. 2016</b>	<b>-</b>	<b>-6,370</b>	<b>-982</b>	<b>-7,352</b>
<b>Residual value 31 Dec. 2016</b>	<b>51,255</b>	<b>17,979</b>	<b>1,917</b>	<b>71,151</b>

### Note 2 – Tax

The group's total loss carry-forwards amount to SEK 310,107,000 as of 31 March 2017 (231,868,000). The parent company's total loss carry-forwards amount to SEK 284,435,000 as of 31 March 2017 (105,511,000). Because the company is loss making, management cannot judge when deductible loss carry-forwards will be utilized.

### Note 3 – Shares and participations in group companies

These shares are the holding of 82.47% in the subsidiary NeuroVive Pharmaceutical Asia Ltd., domiciled in Hong Kong.

## Affirmation

This Interim Report gives a true and fair view of the parent company and group's operations, financial position and results of operations, and states the significant risks and uncertainty factors facing the parent company and group companies.

Lund, Sweden, 18 May 2017

**Greg Batcheller**  
Chairman of the Board

**David Bejker**  
Board member

**Marcus Keep**  
Board member

**David Laskow-Pooley**  
Board member

**Jan Törnell**  
Board member

**Erik Kinnman**  
Chief Executive Officer

This Interim Report is published in Swedish and English. In the event of any difference between the English version and the Swedish original, the Swedish version shall prevail.

For more information concerning this report, please contact CEO Erik Kinnman  
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This information is information that NeuroVive Pharmaceuticals (publ) is obliged to make public pursuant to the EU Market Abuse Regulation and the Securities Markets Act. The information was submitted for publication, through the agency of the contact person set out above, at 08:30 a.m. CET on 18 May 2017.

## About NeuroVive

NeuroVive Pharmaceutical AB is a leader in mitochondrial medicine. The company is committed to the discovery and development of medicines that preserve mitochondrial integrity and function in areas of unmet medical need. The company's strategy is to advance drugs for rare diseases through clinical development and into the market. The strategy for projects within larger indications outside the core focus area is out-licensing in the preclinical phase. NeuroVive enhances the value of its projects in an organization that includes strong international partnerships and a network of mitochondrial research institutions, as well as expertise with capacities within drug development and production.

NeuroVive has a project in early clinical phase II development for the prevention of moderate to severe traumatic brain injury (NeuroSTAT®) and one project entering clinical Phase I

(KL1333). NeuroSTAT has orphan drug designation in Europe and in the US. The R&D portfolio consists of several late stage research programs in areas ranging from genetic mitochondrial disorders to cancer and metabolic diseases such as NASH.

NeuroVive is listed on Nasdaq Stockholm, Sweden (ticker: NVP). The share is also traded on the OTCQX Best Market in the US (OTC: NEVPF).

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