2023 First quarter interim report

Innovative vaccines for a healthier world

EXPRES^{2}ION
BIOTECHNOLOGIES

ExpreS^{2}ion Biotech Holding AB
Org. Nr. 559033-3729

Forward-looking statements and disclaimer

This report contains forward-looking statements. The words "believe", "expect", "anticipate", "intend" and "plan" and similar expressions identify forward-looking statements. All statements other than statements of historical facts included in this report, including, without limitation, those regarding our financial position, business strategy, plans and objectives of management for future operations (including development plans and objectives relating to our products), are forward-looking statements. Such forward-looking statements involve known and unknown risks, uncertainties and other factors which may cause our actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by such forward-looking statements. Such forward-looking statements are based on numerous assumptions regarding our present and future business strategies and the environment in which we will operate in the future. The important factors that could cause our actual results, performance or achievements to differ materially from those in the forward-looking statements include, among others, risks associated with product discovery and development, uncertainties related to the outcome of clinical trials, slower than expected rates of patient recruitment, unforeseen safety issues resulting from the administration of our products in patients, uncertainties related to product manufacturing, the lack of market acceptance of our products, our inability to manage growth, the competitive environment in relation to our business area and markets, our inability to attract and retain suitably qualified personnel, the unenforceability or lack of protection of our patents and proprietary rights, our relationships with affiliated entities, changes and developments in technology which may render our products obsolete, and other factors. Further, certain forward-looking statements are based upon assumptions of future events which may not prove to be accurate. The forward-looking statements in this document speak only as at the date of this report. ExpreS^{2}ion Biotech does not undertake any obligation to update or revise forward-looking statements in this report nor to confirm such statements to reflect subsequent events or circumstances after the date made or in relation to actual results, unless required by law.

Definitions

"ExpreS^{2}ion Biotech Holding AB" refers to ExpreS^{2}ion Biotech Holding AB with corporate identity number 559033-3729. "The Company" or "ExpreS^{2}ion" refers to the group, i.e. ExpreS^{2}ion Biotech Holding AB and its fully owned operational subsidiary ExpreS^{2}ion Biotechnologies ApS, Denmark.

Overall, our outlook for the remainder of 2023 remains positive, with the top-line results from the Phase III clinical trial for the ABNCoV2 COVID-19 booster vaccine and 12-month durability date from the phase II clinical trial as the next major milestones expected in the coming months.

A word from our CEO

"In the first quarter of 2023, we made significant progress and secured additional funding for our pipeline-driven strategy, while also strengthening our organisation and improving access to valuable scientific knowledge in the field of infectious diseases."

Key milestones for ExpreS^{2}ion in 2023 will be the completion of Bavarian Nordic's ongoing Phase III clinical trial for the ABNCoV2 capsid virus-like particle (cVLP) based COVID-19 booster vaccine and the publication of 12-month durability data from the Phase II clinical trial. Bavarian Nordic recently announced that top-line results are now expected around mid-2023 due to longer-than-expected recruitment times for subjects aged 65 and above. Although the trial is taking longer than originally expected to complete, which is not uncommon in complex clinical trials, Bavarian Nordic has now communicated the complete enrolment of approximately 4,200 study persons, which is encouraging. We remain hopeful that the data will demonstrate the advantages of ABNCoV2 compared to other vaccines on the market. Considering the COVID-19 virus is likely to persist and evolve into an endemic disease, there is a global need for an effective booster vaccine. A positive outcome will also be a major milestone for our ExpreS2 platform and, consequently, for ExpreS^{2}ion as a company.

Our ES2B-C001 HER2-cVLP therapeutic breast cancer vaccine candidate is currently undergoing preclinical safety studies, and we are on track to complete this final part of the preclinical program, allowing us to initiate a Phase I clinical trial in 2024. It is exciting to know that our first fully-owned pipeline asset is rapidly advancing toward the clinical phase.

In line with our pipeline-driven strategy, we are pleased to announce that the MucoVax consortium, a collaboration between ExpreS^{2}ion and the University of Copenhagen, has been awarded a grant of up to approximately 43 MSEK. ExpreS^{2}ion will directly receive funding of around 14 MSEK for the development of a universal mucosal influenza vaccine. This project is an

exciting addition to our pipeline, enabling us to explore unique vaccine technologies, and will even involve testing novel influenza vaccines delivered intranasally using animal models.

To further enhance our preclinical capabilities in line with the expansion of our project pipeline, we have strengthened our leadership team by appointing Dr. Farshad Guirakhoo as ExpreS^{2}ion's new Chief Scientific Officer (CSO). With over 30 years of broad translational research experience in vaccine development, Dr. Guirakhoo will be a valuable resource for us moving forward.

During the quarter, we were proud to announce the establishment of an Infectious Diseases Scientific Advisory Board (ISAB). The ISAB comprises four initial members who possess extensive knowledge in infectious diseases, clinical trials, and preventive vaccines. They will contribute to the development of ExpreS^{2}ion's proprietary pipeline efforts in the field of infectious diseases. The ISAB will serve as advisors and participate in key opinion leader events for the scientific community and investors.

In April, shortly after the end of the period, we announced the outcome of our recent rights issue. The company will receive approximately SEK 54.5 million before deducting issue costs, corresponding to a total subscription rate of approximately 53.2% with and without the support of unit rights. We acknowledge that the subscription rate is a sign of the times in the current financial climate, with higher interest rates, recession concerns, and geopolitical instability, yet appreciate that the outcome was within range of our financial strategy. This funding will enable us to continue progressing with our pipeline projects according to plan, and we are grateful for the support of all investors who participated in this rights issue.

Overall, our outlook for the remainder of 2023 remains positive, with the top-line results from the Phase III clinical trial for the ABNCoV2 COVID-19 booster vaccine and 12-month durability date from the phase II clinical trial as the next major milestones expected in the coming months.

Bent U. Frandsen

CEO, ExpreS^{2}ion Biotech Holding AB

ExpreS²ion's key assets

The ExpreS2 technology platform

The Company's ExpreS2™ platform has been used successfully for the development and production of hard-to-express proteins for over a decade. It has a great track record, with over 500 proteins expressed and a success rate above 90 percent. Additional advantages include a rapid delivery process of 3-6 months, and a high batch-to-batch consistency.

The platform is used in ExpreS²ion's two most valuable development programs, the ABNCoV2 COVID-19 vaccine and the Company's own ES2B-C001 HER2 breast cancer vaccine programme, as well as in several Malaria vaccine partner projects and the influenza vaccine project developed within the INDIGO consortium. The platform is also used in ExpreS²ion's CRO services, which will be increasingly used to drive value generation in the company's pipeline development projects going forward.

In addition to its current advantages, the ExpreS2™ platform is also in the process of being upgraded with unique and genetically engineered cell lines, such as the HighMan-S2™. With these cell lines, the proteins expressed are given improved characteristics such as the facilitation of higher immunization levels compared to regular versions of the same proteins.

ExpreS2™ Platform Strengths

1.
Significantly less costly and time-consuming than alternative methods, which is an important competitive advantage, considering time-to-market and patent expiry. It also makes the platform particularly valuable for the development of diagnostics and vaccines in epidemic or pandemic situations where speed is of the essence.

2.
Generates higher yields, i.e. amount of protein per manufacturing batch, compared to competing systems.

3.
Provides homogeneous manufacturing batches, a requirement in pharmaceutical development. The platform includes the Company's patented expression vectors which were developed, among other things, to make it possible for the cells to generate higher yields.

4.
Since 2019 the Company's offering to the biopharma sector includes glyco-engineered S2 cell lines under the GlycoX-S2™ brand. This allows for functional modification, e.g. by enhancing immunogenicity or improving pharmacokinetics.

The ABNCoV2 COVID-19 Vaccine

ExpreS^{2}ion has been engaged in the development of a unique capsid virus-like particle (cVLP) COVID-19 vaccine using ExpreS2-produced SARS-CoV-2 antigens. The vaccine has been licensed exclusively to Bavarian Nordics, which has completed Phase II studies with excellent results. In these studies, the vaccine was demonstrated to create a 2-40-fold increase in neutralizing antibodies compared to mRNA vaccines, for all variants tested so far, with no severe adverse effect. The vaccine also has the advantage of not requiring extremely cold storage and shipping temperatures (such as mRNA vaccines), which makes it suitable for global usage, including in development regions. The preclinical development of the vaccine was partly sponsored through a Horizon 2020 EU grant awarded to the PREVENTnCoV-consortium, with ExpreS^{2}ion as one of its members. As announced by the exclusive licensee Bavarian Nordic on August 23, 2021, the clinical program will receive up to DKK 800 million funding from the Danish Ministry of Health. ExpreS^{2}ion's main source of potential future license revenues from this vaccine is the company's 34% ownership in the Danish company AdaptVac, which is providing the cVLP technology for the vaccine. The Phase III studies, fully sponsored by Bavarian Nordic, begun in 2022 and included both international and Danish subjects. While the main goal of the clinical program is to evaluate ABNCoV2 as a booster vaccine, the excellent Phase II clinical results indicate that it will provide very strong protection on its own.

The ES2B-C001 HER2 Breast Cancer Vaccine

The high-value asset was licensed from the Danish Company AdaptVac in February 2021, and it is the first development program fully controlled by ExpreS^{2}ion. The vaccine is being developed for therapeutic treatment of HER2 positive breast cancer, with the patient group developing resistance to the commonly used monoclonal antibody treatment trastuzamab as one key focus. The vaccine is using a capsid virus-like particle (cVLP) approach combined with ExpreS2-produced antigens. In December 2021 and January 2022, positive preclinical data constituting preclinical proof of concept for the project was announced. In both in vivo and in vitro studies with human breast cancer tumours cells, the vaccine was shown to inhibit tumour growth, development and metastatic spreading. These positive results were demonstrated also in trastuzumab resistant human cancer cells, which is very promising. ExpreS^{2}ion is now conducting preclinical safety studies, followed by first in human clinical studies in 2024 with topline Phase I results expected in 2024-2025.

The in-licensed cVLP platform

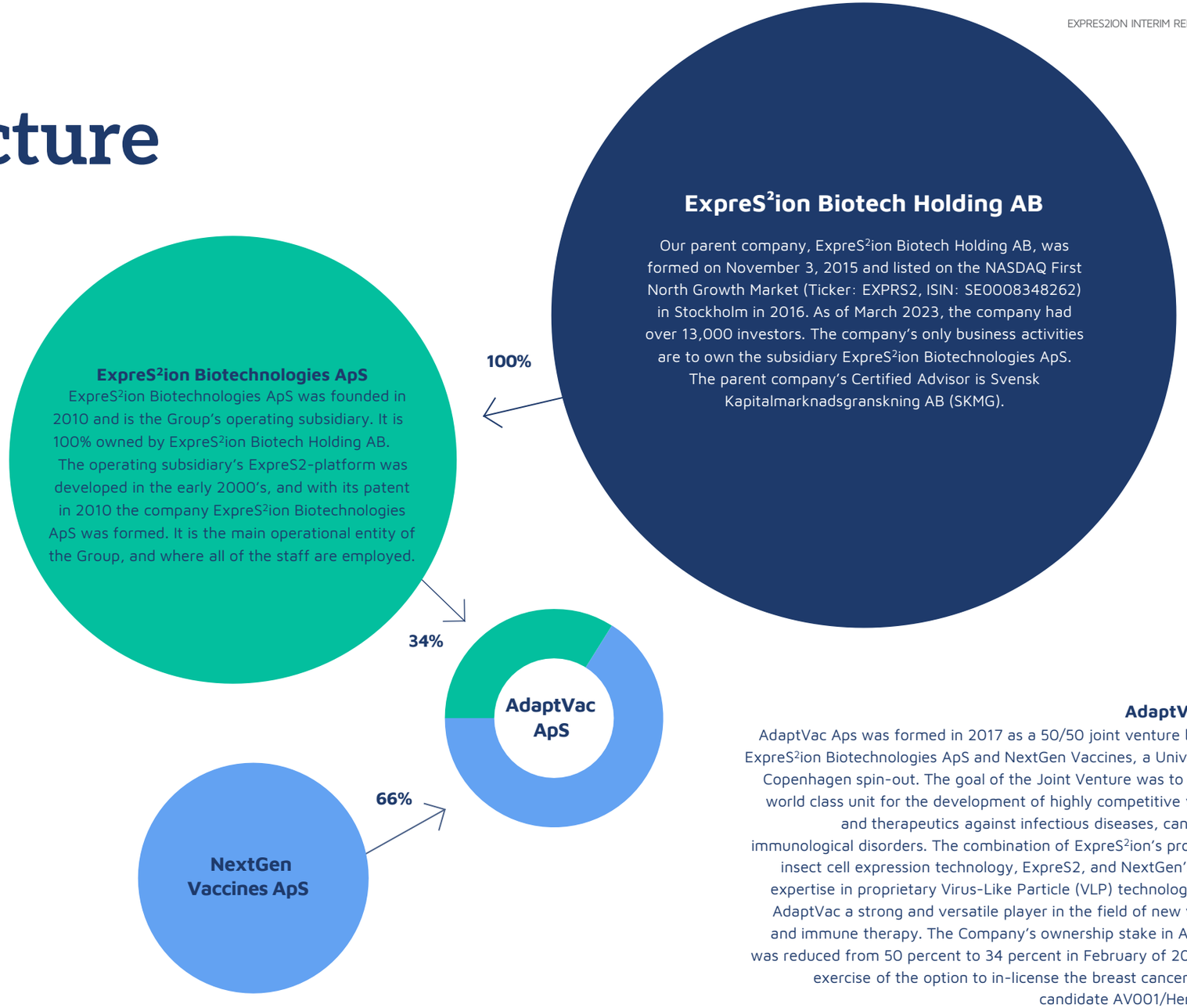
In some of ExpreS^{2}ion's development projects, including the ABNCoV2 COVID-19 vaccine and the ES2B-C001 HER2 breast cancer vaccine, a capsid virus-like particle (cVLP) technology platform is used to create the full vaccine. This is done by attaching the proteins developed by ExpreS2 ion to the surface of a capsid, which is a protein protective shell of a virus. By doing so, the vaccine is mimicking a virus to elicit an immune response in the patient. VLP-based vaccines have a strong commercial track record in the cancer fields from its successful use to prevent HPV cancer. This is promising for ExpreS^{2}ion's HER2 breast cancer vaccine project, which has already achieved excellent preclinical in vivo and in vitro results. The VLP platform in-licensed and used by ExpreS^{2}ion was developed by Copenhagen University and then spun out into the Danish company AdaptVac ApS, of which ExpreS2 ion owns 34%. This VLP platform has a high immunogenic potential due to its ability to hold full length proteins (compared to fragments in other systems), which are attached with a high density on the capsid surface. The platform can also use directional attachment compared to random orientation for other systems.

ExpreS^{2}ion & Evaxion Collaboration on CMV Candidate

ExpreS^{2}ion Biotechnologies and Evaxion has in December 2022 engaged in a Vaccine Discovery Collaboration got a joint development of a novel cytomegalovirus (CMV) vaccine candidate. The collaboration combines ExpreS^{2}ion's ExpreS2 platform and resources for vaccine development and production with Evaxion's RAVEN artificial intelligence (AI) platform for vaccine candidate discovery, and preclinical models for establishing proof of concept. The aim of the collaboration is to, before the end of 2025, develop a novel CMV lead vaccine candidate, which ExpreS^{2}ion has the exclusive right to license under a potential Development and Commercialization Agreement. The research costs and IP licensing for the collaboration project will be divided 50/50 between the parties until 2025, with all costs expected to be covered by each party's existing budget. The discovery phase of the collaboration will be driven by Evaxion's proprietary AI platform, RAVEN, to design a next-generation vaccine candidate that elicits both cellular and humoral/antibody responses. The antigen constructs derived from Evaxion's AI platform will be produced by ExpreS^{2}ion in the company's ExpreS2 platform, followed by assessments in Evaxion's state-of-the-art in vivo vaccine models. A potential future Development and Commercialisation Agreement for the jointly discovered CMV lead vaccine candidate is expected to include an upfront payment and future milestone payments to Evaxion from ExpreS^{2}ion not exceeding a six-digit USD amount, as well as sub-licensing royalty to Evaxion from ExpreS^{2}ion based on mid to lower two-digit percentage range of third-party licensee income depending on the clinical development stage of the CMV asset at the time of sublicensing.

Company structure

ExpreS^{2}ion has a streamlined company structure. ExpreS^{2}ion Biotech Holding AB is the Swedish entity listed on Nasdaq First North Growth Market since 2016. ExpreS^{2}ion Biotechnologies ApS is the operational entity, with offices and labs in the Scion DTU Science park 20 km north of Copenhagen, Denmark, and was established in 2010. AdaptVac ApS is a joint venture established in 2017 together with a group of scientists from the Institute of Immunology and Microbiology at the University of Copenhagen. The scientists own their part of AdaptVac through a joint holding company named NextGen Vaccines ApS.



AdaptVac ApS

AdaptVac Aps was formed in 2017 as a 50/50 joint venture between ExpreS^{2}ion Biotechnologies ApS and NextGen Vaccines, a University of Copenhagen spin-out. The goal of the Joint Venture was to create a world class unit for the development of highly competitive vaccines and therapeutics against infectious diseases, cancer, and immunological disorders. The combination of ExpreS^{2}ion's proprietary insect cell expression technology, ExpreS2, and NextGen's unique expertise in proprietary Virus-Like Particle (VLP) technology makes AdaptVac a strong and versatile player in the field of new vaccines and immune therapy. The Company's ownership stake in AdaptVac was reduced from 50 percent to 34 percent in February of 2021 upon exercise of the option to in-license the breast cancer vaccine candidate AV001/Her2-cVLP.

Business model

Vision and mission of the Company
ExpreS^{2}ion is a biotechnology company that develops complex proteins into new vaccines, aims to become a leader within infectious diseases and cancer, and strives to deliver new preventive and therapeutic products within these areas. The Company aims to achieve this through scientific research, a continued focus on academic and industrial collaborations and through further development of the Company's core skills in protein expression and vaccine development.

Business model
The Company's business model is first and foremost to develop a unique and competitive pipeline of preventive and therapeutic vaccine products. In parallel herewith, the Company generates revenue by providing fee-for-service contract research and products within recombinant protein expression, which is a way of producing proteins, as well as outlicensing the ExpreS2™ platform to research institutes and pharmaceutical companies which develop biopharmaceutical drugs and vaccines on their own, or in cooperation with the Company. The Company also sells ExpreS2™ test kits and reagents (substances intended to detect or determine other substances) for application as research tools or diagnostics. This model generates short term revenue from the contract research organization (CRO) business, meaning to offer clinical trial services within medical research development, while the pharmaceutical products developed using the Company's technology carry potential future royalties, license fees, and milestone payments. The Company is active in the development of pharmaceuticals, and thus has no sales of pharmaceuticals or pharmaceuticals that have been approved by a regulatory body. Nor has the Company approved or sold any medicines that they developed together with a development partner.

The Company is building a pipeline of preclinical and later-stage clinical biopharmaceutical drug and vaccine candidates. ExpreS^{2}ion will carry out its own initial research, preclinical and early clinical development work (proof-of-concept) prior to out-licensing. An example of this is the agreement with Bavarian Nordic in 2020, under which Bavarian Nordic assumes all future development costs for the COVID-19 vaccine program and will potentially pay certain milestones and royalties. Another example of collaboration is the research collaboration agreement with Evaxion Biotech A/S on a novel CMV vaccine candidate, where research cost and IP licensing is divided 50/50 between the parties.

The Company believes that the prioritisation of an in-house pipeline of biopharmaceutical drug and vaccine candidates, with a focus on development collaborations, while maintaining CRO business, puts the Company in a good position to, in the long-run, with successful development, generate revenue and create value for the Company and its shareholders.

Strategy and growth
ExpreS^{2}ion aims to develop the pipeline of pharmaceutical candidates further by adding additional vaccine projects while continuing preclinical and early clinical development work on existing projects. The Company targets human Proof-of-Concept since successful studies according to the Company can maximize opportunities for qualitative partnerships and collaborations for further development. Partnering early in the process is also an option for progressing pipeline projects, by using a partner's resources, which among others can be technology, knowledge, or financing. The Company also aims to improve the technology platform further to ensure competitiveness. This is done by improving the ExpreS2™ system, potentially adding relevant compatible technologies, and continuing to sell licenses for the use of the ExpreS2™ platform.

See business model on next page →

ExpreS2 Platform for Protein Expression

+500 different proteins have been produced with the ExpreS2 platform, while posting a success rate exceeding 90% across +100 clients and partners.

Novel Pipeline Development

Independent

Fully-owned development of novel protein therapeutics and vaccines

After human PoC, targeting partner externally for further development

Collaboration

Partner with leading research organizations to source and develop novel programs

Potential to fully acquire programs for independent development

Significant upside potential: intermediate/long-term

Contract Research Organization (CRO)

Services

Early-stage R&D for leading academic, research, and biotech organizations

Protein feasibility, delivery, and transfer to GMP production

Licensing & Kit Sales

Fully out-license rights to ExpreS2 technology

Sell test kits and reagents for research or diagnostic applications

Revenue-generating business: current and long-term payments

Pipeline

Focus programs

Disease	Project / Target	Discovery	Pre-clinical Pharmacology	cGMP / Tox	Phase 1	Phase 2	Phase 3	Market potential
COVID-19	ABNCoV2/SARS-CoV-2 cVLP							> 30 billion EUR
BREAST CANCER	ES2B-C001/Her2 cVLP							> 10 billion EUR
INFLUENZA	MucoVax							> 7 billion EUR
CMV	ES2B-I002							> 2 billion EUR
Exploratory	Undisclosed							

COVID-19: 2024 estimate from Evaluate Pharma for top 10 products and other, as of 9 June 2022 · Breast Cancer: Global Data, 2022, for HER2+ breast cancer · Influenza: Fortune Business Insight, Influenza Vaccine market size 2022-2029, 2022 · CMV: Market estimate from Moderna, 41st Annual J.P. Morgan Healthcare Conference (Presentation)

Pipeline

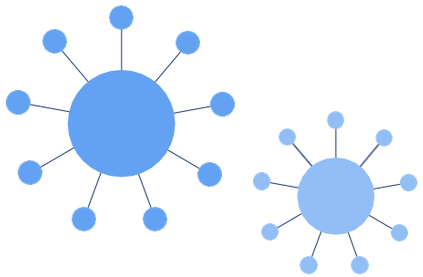
Legacy programs

Disease	Project / Target	Discovery	Pre-clinical Pharmacology	cGMP / Tox	Phase 1	Phase 2	Phase 3	Market potential
MALARIA								>1.8 billion EUR
1: Blood-Stage	RH5							
2: Blood-Stage	RH5-VLP							
3: Transmission	Pfs 48/45							
4: Placenta-Borne	VAR2CSA							
5: Blood-Stage	CYRPA complex							
INFLUENZA	INDIGO							> 7 billion EUR

Note: Legacy programs were set up prior to the Company's transition into a pipeline-driven biotech company in 2020, and are driven primarily by academic consortia.
Malaria: Data bridge market research, Global Malaria Vaccines Market – Industry trends and Forecast to 2029, 2022 · Influenza: Fortune Business Insight, Influenza Vaccine market size 2022-2029, 2022

Pipeline description

Focus programs

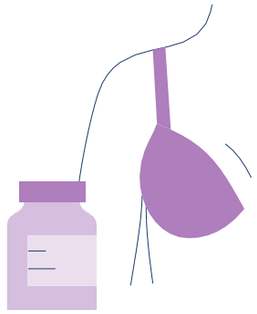


CORONAVIRUS/COVID-19

ExpreS²ion and its associated company AdaptVac have been engaged in the development of a unique capsid virus-like particle (cVLP) COVID-19 vaccine, partly sponsored through a Horizon 2020 EU grant award to the PREVENT-nCoV consortium to rapidly advance the vaccine candidate against COVID-19 into the clinical stage. The candidate vaccine is a cVLP applying ExpreS2-produced SARS-CoV-2 antigens, thereby creating a powerful immunogenic vaccine. In July 2020, AdaptVac and Bavarian Nordic, a fully integrated biotechnology company focused on the development, manufacture and commercialization of life-saving vaccines, entered into a license agreement providing Bavarian Nordic the global commercialization rights to the proprietary capsid virus like particle-based SARS-CoV-2 subunit vaccine, desig- nated ABNCoV2. For application of our proprietary protein production system ExpreS2, ExpreS²ion and AdaptVac have also entered into a license agreement for this project.

In addition to ExpreS²ion and AdaptVac, the PREVENT-nCoV consortium members are Leiden University Medical Center (LUMC), Institute for Tropical Medicine (ITM) at University of Tübingen, The Department of Immunology and Microbiology (ISIM) at University of Copenhagen, the Laboratory of Virology at Wageningen University, and Radboud University Medical Center. We announced the first headline results of the clinical Phase I/IIa in August 2021 and demonstrated positive safety and efficacy outcomes. Bavarian Nordic is currently running a Phase II study to determine the vaccine's potential as a universal booster. Preliminary results in December 2021 demonstrated a strong boosting effect for all variants tested and confirmed the vaccine's excellent profile as a non-adjuvanted universal COVID-19 booster vaccine.

Additional positive Phase II results were presented in February 2022. The full study data confirms that existing levels of SARS-CoV-2 neutralizing antibodies increased by 2-40-fold, depending on the initial levels of antibodies, with no serious adverse events reported. Based on this excellent outcome, Bavarian Nordic initiated a Phase III study in the third quarter of 2022. In October 2022, Bavarian Nordic announced that ABNCoV2 demonstrated durable antibody response six months after vaccination, reflecting a less sharp decline in peak neutralizing titers compared to data published for mRNA vaccines, indicating a potentially longer duration of protection across variants of concern.



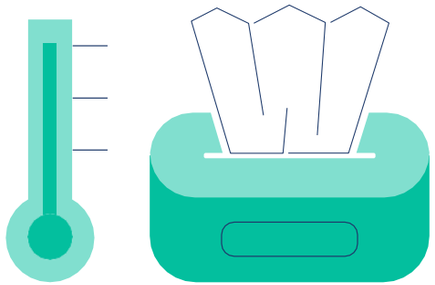
BREAST CANCER

Breast cancer is a widespread oncology indication affecting more than 1.3 million people worldwide annually, resulting in more than 450,000 deaths[1]. The most common treatment today is based on monoclonal antibodies, where the dominating therapies Herceptin (trastuzumab) and Perjeta (pertuzumab) generate annual global sales of USD 7 billion. The target product profile of our lead breast cancer project, ES2B-C001 (HER2-cVLP), is tailored to be highly competitive both in terms of cost and efficacy, thus aiming at a significant market share.

In February 2021, ExpreS²ion signed a final patent license agreement with AdaptVac whereby ExpreS²ion exclusively licensed in AV001 (renamed ES2B-C001). This gives ExpreS²ion full control over and responsibility for driving this valuable asset forward, hereby realising the very significant value of this project. At the end of 2021, ExpreS²ion's candidate demonstrated strong tumor-growth inhibiting effect in a mice models, thus reaching an important pre-clinical milestone ahead of schedule. Additionally, anti-HER2 antibodies from these studies were found to effectively inhibit tumor growth in human cancer cells. The candidate also demonstrated proof-of-concept in HER2-transgenic preventive as well as therapeutic tumor mice models, thus reaching a further important pre-clinical milestone.

Based on feedback from the Danish Medicines Agency (DKMA), ExpreS²ion will conduct additional preclinical safety studying, which will increase the robustness of the project's preclinical data. Consequently, the Company is now aiming to file the clinical trial application for the Phase I trial towards the end of 2023, with the aim of dosing first in human in the first half of 2024.

[1]Tao, 2015: www.ncbi.nlm.nih.gov/pubmed/25543329

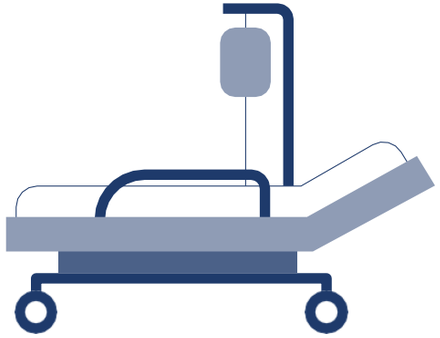


INFLUENZA

The MucoVax consortium, a collaboration between ExpreS²ion and University of Copenhagen, has been awarded an Innovation Fund Denmark (IFD) Grand Solutions grant for the development of new platforms for universal mucosal vaccines in a 5-year research project. The award funding covers 71% of the research project and amounts to 29 MDKK (approx. 43 MSEK), of which ExpreS²ion directly is funded with 9.6 MDKK (approx. 14 MSEK). The IFD investment funds 67% of ExpreS²ion's share of the research project budget.

The aim of the grant is to support the MucoVax consortium in the development of new platforms for universal mucosal vaccines, including performing animal models to test *in vivo* novel influenza vaccines delivered intranasally. The ambitious aim is to combine ExpreS²ion's unique ExpreS2™ protein production system with the fundamental knowledge in immunology and microbiology of the University of Copenhagen including novel and advanced vaccine platforms.

The MucoVax consortium members are world-leading experts in their respective fields, covering all relevant areas of viral research and vaccine development required for preclinical development of a universal mucosal influenza vaccine. This includes pre-clinical and clinically validated experience from working with malaria pathogens and the SARS-CoV2 corona-virus, applying ExpreS²ion's Drosophila S2 insect cell expression system, and unique know-how in exploration of adjuvants and virus-like particle (VLP) technologies.



CYTOMEGALOVIRUS

The company has signed a Vaccine Discovery Collaboration Agreement with Evaxion Biotech A/S (NASDAQ: EVAX) for the joint development of a novel cytomegalovirus (CMV) vaccine candidate. The collaboration will combine ExpreS²ion's ExpreS2 platform and resources for vaccine development and production with Evaxion's RAVEN artificial intelli- gence (AI) platform for vaccine candidate discovery and state-of-the-art preclinical models.

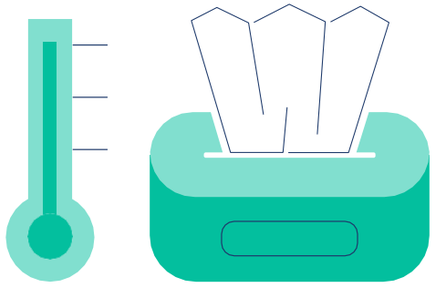
The aim of the collaboration is to, before the end of 2025, develop a novel CMV lead vaccine candidate, which ExpreS²ion has the exclusive right to license under a potential Development and Commercialization Agreement. The research costs and IP licensing for the collaboration project will be divided 50/50 between the parties until 2025, with all costs expected to be covered by each party's existing budget.

During the discovery phase of the collaboration, Evaxion will use its proprietary AI platform, RAVEN, to design a next-generation vaccine candidate that elicits both cellular and humoral/antibody responses. The antigen constructs derived from Evaxion's AI plat- form will be produced by ExpreS²ion in the company's ExpreS2 platform, followed by assessments in Evaxion's state-of-the-art *in vivo* vaccine models. The joint discovery project will be included in ExpreS²ion's development pipeline under the name ES2B-I002.

A potential future Development and Commercialisation Agreement for the jointly discovered CMV lead vaccine candidate is expected to include an upfront payment and future milestone payments to Evaxion from ExpreS²ion not exceeding a six-digit USD amount, as well as sub-licensing royalty to Evaxion from ExpreS²ion based on mid to lower two-digit percentage range of third-party licensee income depending on the clinical development stage of the CMV asset at the time of sublicensing.

Pipeline description

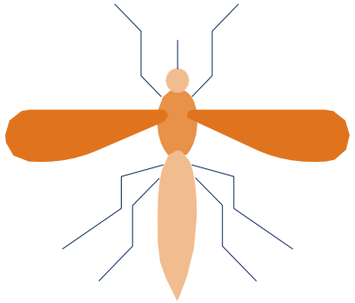
Legacy programs



INFLUENZA

The international next-generation influenza vaccine consortium INDIGO, led by the University of Amsterdam with ExpreS²ion as a participating member, is developing a next-generation influenza vaccine in a large collaboration between public and private R&D organisations from the EU, India, and the United States. The project has been awarded a 10 MEUR Horizon 2020 grant from the EU, of which ExpreS²ion's participation was directly awarded 0.6 MEUR.

The INDIGO consortium plans to carry out the preclinical and clinical development of the project, which contains two novel influenza vaccine concepts, including the application of a novel potent adjuvant by LiteVax BV, the Netherlands, as well as the use of the ExpreS2 platform for antigen production by ExpreS²ion. The aim is to create an influenza vaccine that meets the requirements of global vaccination, i.e. to achieve <10% instead of 60% non-responders, combined with a lower manufacturing cost and better accessibility.



MALARIA PROJECTS

Malaria I

Blood stage (RH5-1)

Jenner Institute of the University of Oxford is developing the blood-stage Plasmodium falciparum malaria antigen RH5.1 with ExpreS²ion as a collaboration partner. The RH5.1 antigen is produced in ExpreS²ion's ExpreS2 platform.

Malaria II

Blood stage (RH5-2)

With the aim to further improve efficacy, the Jenner Institute of the University of Oxford is developing a second-generation RH5 vaccine, RH5.2, in the ExpreS2 platform. RH5.2 has been engineered to retain regions important for red blood cell recognition, which are targeted by neutralising antibodies. Additionally, the RH5.2 protein will be displayed on the surface of a hepatitis B derived virus-like particle (VLP) in order to maximise the induction of high titre antibodies. The project is funded by the Wellcome Trust.

Malaria III

Transmission (Pfs48/45)

The goal for a transmission-blocking vaccine is to prevent the transfer to mosquitos feeding on persons infected with malaria, thus effectively hindering further spread of the disease. Thereby a transmission-blocking vaccine does not give direct protection from the disease, but it stops the disease from spreading and could therefore lead to eradication of malaria. During the last decade, the inability to produce the full-length Pfs48/45 antigen has been a major roadblock for researchers aiming to create a transmission-blocking malaria vaccine. However, this challenge was overcome by ExpreS²ion and Jenner Institute at the University of Oxford.

This vaccine is developed by the Horizon 2020-funded OptiMalVax grant consortium, led by Jenner Institute at the University of Oxford with ExpreS²ion as a member. The objective of the consortium is to create a combination malaria vaccine, and its clinical program will include trials to assess the pre-erythrocytic, blood-stage and mosquito-stage components of the combination vaccine, including this transmission vaccine.

Malaria IV

Placental (VAR2CSA)

ExpreS²ion is a part of the PlacMalVac project that started in 2013 as an international consortium project with the aim to develop a vaccine against placental malaria. The project is based on the antigen VAR2CSA, which enable parasite accumulation in the placenta and was discovered by Professor Ali Salanti and others at the University of Copenhagen.

Malaria V

Blood-stage (PfRipr complex)

An international research team, including scientists from ExpreS²ion and led by the Walter and Eliza Hall Institute of Medical Research (WEHI), is developing a next generation malaria vaccine that is targeting a recently discovered molecular 'key' that the deadly malaria parasite uses to enter human blood cells. The malaria 'key' was first described in a Nature article, published December 2018 from the group. It is a complex of three parasite proteins called Rh5, CyRPA and Ripr, where the three proteins work together to unlock and enter the cell. This central role in the infection of human blood cells makes the complex a new and promising target for vaccine development. The vaccine is based on a patent co-owned by WEHI and ExpreS²ion.

Advancing towards key catalysts

	2022	2023	2024	2025
COVID-19 ABNCoV2	✓ **BN Phase II trial readout H1** ✓ **BN Phase III trial initiation Q3**	**BN Phase II 12-month durability data BN Phase III initial readout** **BN initiating rolling submission** **BN ready for market launch** (subject to regulatory approval)	**Expected royalties from sales** →	
BREAST CANCER ES2B-C001	✓ **Preclinical animal proof-of-concept results H1** ✓ **Preclimary preclinical safety studies initiated** ✓ **GMP manufacturing processing** ✓ **Initial readout from preliminary nonclinical toxstudies**	**GLP nonclinical tox study in NHP** **Filing of clinical study application**	**Initiation of first human clinical study 2024** **Outlicensing window opens pending human data** →	
INFLUENZA INDIGO/MUCOVAX	✓ **Advance/support further development in INDIGO of one more candidates in 2022** ✓ **Grant award for the MUCOVAX project for intranasel vaccine**	**cGMP/Preclinical safety studies initiation on INDIGO** (subject to new grant funding)	**Selection of lead influenza vaccine candidate for the MUCOVAX project**	
CYTOMEGALO-VIRUS ES2B-I002	✓ **Establish 50/50% partnership on cytomegalovirus vaccine with Evaxion**	**Early research on CMV vaccine target, applying AI**	**Preclinical testing of immunogenicity of CMV vaccine target**	**Selection of lead CMV vaccine candidate**
MALARIA	✓ **RHS Additional phase I study in a malaria endemic region in Afrca launched during 2021, with alternative adjuvant**	**Pfs 48/45 phase I trial initiation 2023** (pending University of Oxford) **RH5-VLP phase I initiation 2023 readout** (pending University of Oxford) **RH5 phase I trial readout H2 2023**		

Note: Timeline for ABNCoV2 is based on Bavarian Nordic's communicated timeline and is subject to potential revision.

Summary of Q1 2023 interim results

Key financials

SEK '000s	Q1 2023	Q1 2022	% Change
Operating income	2,590	2,078	25%
Profit/loss after financial items	-30,282	-14,844	104%
Profit/loss for the period	-26,308	-13,836	90%
Earnings per share*	-0.70	-0.44	58%
Cash balance, end of period	71,972	39,563	82%
Cash balance including SKAT balance, end of period**	71,972	124,678	-42%
Total assets	103,125	140,035	-26%
Equity/asset ratio (%)***	77%	94%	-17%

In Q1 2023, operating costs decreased 40% compared with Q4 2022, primarily reflecting lower preclinical and CMC costs related to the development of ES2B-C001, the HER2+ breast cancer vaccine project. This drove a 46% decrease in the loss in the first quarter of 2023. It is also worth noting that the end of period cash balance does not reflect proceeds from the rights issue, which were received after the close of the quarter.

Keith Alexander
Chief Financial Officer

Figures in parenthesis are the numbers from the same period in 2022.

**The Group's net income per share: The net income for the period divided with the average number of shares for the period. For the period January to March 2023, the average number of shares amounted to 37,606,796. As of 31/03/2023, the total number of shares in Expres^{2}ion Biotech Holding AB was 37,606,796.*

***In Q4 2021 the Company decided to store cash in its account with the Danish tax authority (SKAT), where no interest was charged. See callout on balance sheet page.*

****Equity ratio: Shareholder's equity divided by total capital.*

Financial overview

Development in figures for Q1 2023

Operating income

Total operating income during the first quarter of 2023 amounted to KSEK 2,590 (2,078), which was 25% higher compared to the same period last year due to an increase in net sales from client projects, licenses and web store purchases which increased by 26% compared to the same period in 2022. Other operating income, which primarily reflects grants, was de minimus. Operating income has decreased significantly from 2020 levels due to the Company's transition to a pipeline-driven company from a CRO service provider. Looking forward, other operating income will increase related to the MucoVax grant award announced on 3 March 2023.

Profit/loss for the period

The net loss for the first quarter of 2023 amounted to KSEK -26,308 (-13,836). The lower result is primarily driven by a SEK 13 million increase in R&D costs, primarily related to the chemistry, manufacturing and controls (CMC) and preclinical development of the breast cancer vaccine candidate ES2B-C001. Another significant driver is an increase in personnel costs (SEK 2.4 million) due to increases in FTE headcount. Partially offsetting was an increase in the income tax benefit (SEK 2.9 million) as a result of the increase in R&D costs, and the increase in operating income (SEK 0.5 million) mentioned above.

Cash and cash equivalents

As of March 31, 2023, ExpreS^{2}ion's cash and bank amounted to KSEK 71,972 (124,678 including the Company's SKAT balance*). During the quarter, cash decreased by SEK 40 million driven by negative cash flow from operations of SEK 40 million. The primary driver of negative cash flow from operations was a negative operating result (-SEK 30 million) and changes in working capital (-SEK 11 million), partially offset by items not included in the cash flow (+SEK 2 million) reflecting non-cash warrant vesting charges.

This report has been prepared using the same accounting principles as used for the 20212Annual report published 2 May 2023. All figures refer to group results unless stated otherwise. Figures in parenthesis are from the same period in 2022.
**Please refer to the financial overview in the 2022 Q1 interim report for more information.*

Income statement – group

KSEK	Q1 2023	Q1 2022	% change	FY 2022
Operating income				
Net sales	2,566	2,033	26%	5,086
Other operating income	24	45	-47%	1,064
Total operating income	**2,590**	**2,078**	**25%**	**6,150**
Operating costs				
Raw materials & consumables	-1,344	-949	42%	-5,081
Research & development costs	-14,402	-1,585	809%	-71,324
Other external costs	-3,504	-3,241	8%	-14,826
Personnel costs	-12,982	-10,632	22%	-41,309
Depreciation of tangible & intangible fixed assets	-329	-316	4%	-1,216
Total operating costs	**-32,561**	**-16,723**	**95%**	**-133,756**
Operating profit/loss	**-29,971**	**-14,645**	**105%**	**-127,606**
Result from financial investments				
Other interest income & similar items	0	0	n/a	1,896
Interest expense & similar items	-311	-199	56%	-871
Total result from financial investments	**-311**	**-199**	**56%**	**1,025**
Profit/loss after financial items	**-30,282**	**-14,844**	**104%**	**-126,581**
Income tax on the result for the period	3,974	1,008	294%	7,976
Profit/loss for the period	**-26,308**	**-13,836**	**90%**	**-118,605**

Balance sheet – group

KSEK	Q1 2023	YE 2022	% change	Q1 2022
Assets				
Concessions, patents, licenses, trademarkets and similar intellectual rights	2,869	2,953	-3%	3,068
Total non-current intangible assets	**2,869**	**2,953**	**-3%**	**3,068**
Plants and machinery	1,939	910	113%	1,037
Total non-current tangible assets	**1,939**	**910**	**113%**	**1,037**
Interest in associated companies	26	25	4%	24
Other long-term receivables	1,709	1,532	12%	1,188
Total non-current financial assets	**1,735**	**1,557**	**11%**	**1,212**
Total non-current assets	**6,543**	**5,420**	**21%**	**5,317**
Accounts receivable	1,789	826	117%	776
Tax receivables	12,320	8,249	49%	4,456
Other receivables	1,860	1,719	8%	3,050
Prepaid expenses and accrued income	8,641	10,175	-15%	1,758
Total receivables	**24,610**	**20,969**	**17%**	**10,040**
Other short-term investments	0	0	n/a	85,115
Total short-term investments	**0**	**0**	**0%**	**85,115**
Cash and bank	71,972	110,974	-35%	39,563
Total current assets	**96,582**	**131,943**	**-27%**	**134,718**
TOTAL ASSETS	**103,125**	**137,363**	**-25%**	**140,035**

KSEK	Q1 2023	YE 2022	% change	Q1 2022
Equity and liabilities				
Share capital	4,179	4,179	0%	3,461
Other capital contributions	222,496	338,651	-34%	226,657
Other equity including net loss for the period	-147,206	-239,503	-39%	-98,790
Total equity	**79,469**	**103,327**	**-23%**	**131,329**
Provision for taxes	591	608	-3%	632
Total provisions	**591**	**608**	**-3%**	**632**
Other long-term liabilities	2,590	2,002	29%	3,077
Total long-term liabilities	**2,590**	**2,002**	**29%**	**3,077**
Liabilities to credit institutions	2,006	1,763	14%	1,863
Accounts payable	11,813	12,152	-3%	106
Other liabilities	6,656	17,511	-62%	3,028
Total short-term liabilities	**20,475**	**31,426**	**-35%**	**4,997**
TOTAL EQUITY AND LIABILITIES	**103,125**	**137,363**	**-25%**	**140,035**

Note: Cash and bank

In Q1 2022, the Company stored SEK 85 million in cash in its SKAT account, shown in other shot-term investments. On June 15, 2022, SKAT lowered the payout limit to DKK 200,000, resulting in a transfer of the Company's assets in its SKAT account back to the Company's bank account. Consequently, at the end of Q2 2022 the Company no longer stored cash in its SKAT account. Please see the full-year 2021 and Q1 2022 financial reports for more information.

Changes in equity – group

FY 2022

KSEK	are capital	Other capital contributions	Other equity including net profit for the period	Total equity
Opening balance as of January 1st, 2022	**3,461**	**265,931**	**-129,045**	**140,347**
Issuance of new shares	718	75,242		75,960
Issuing expenses		-12,185		-12,185
Vesting of share-based compensation		9,663		9,663
Exchange difference for the period			8,147	8,147
Profit-loss for the period			-118,605	-118,605
Total equity as of December 31st, 2022	**4,179**	**338,651**	**-239,503**	**103,327**

YTD 2023

KSEK	are capital	Other capital contributions	Other equity including net profit for the period	Total equity
Opening balance as of January 1st, 2023	**4,179**	**338,651**	**-239,503**	**103,327**
Vesting of share-based compensation		1,397		1,397
Exchange difference for the period			1,053	1,053
Profit-loss for the period			-26,308	-26,308
Total equity as of March 31st, 2023	**4,179**	**340,048**	**-264,758**	**79,469**

Cash flow statement – group

KSEK	Q1 2023	Q1 2022	% change	FY 2022
Operating profit/loss	-29,971	-14,644	105%	-127,606
Adjustments for items not included in the cash flow	1,717	3,546	-52%	10,816
Received interest	0	0	n/a	1,896
Interest paid	-216	-144	50%	-2,720
Income tax received	0	1	-100%	3,589
Cash flow from operating activities before changes in working capital	**-28,470**	**-11,240**	**153%**	**-114,025**
Decrease(+)/increase(-) of current receivables	-1,257	-1,491	-16%	-8,187
Decrease(+)/increase(-) of current liabilities	-9,801	-2,498	292%	22,598
Cash flow from operating activities	**-39,528**	**-15,230**	**160%**	**-99,614**
Investments in tangible non-current assets	-1,224	-18	6700%	-383
Other investing activities	0	17,976	-100%	105,708
Cash flow from investing activities	**-1,224**	**17,958**	**-107%**	**105,325**
Leasing agreement	1,181	-161	-834%	-524
Loans	-472	-442	7%	-1,791
Issuance of new shares	0	0	n/a	75,960
Costs of issuing shares	0	0	n/a	-12,185
Cash flow from financing activities	**709**	**-603**	**-218%**	**61,460**
Cash flow for the period	**-40,043**	**2,125**	**-1984%**	**67,171**
Cash and cash equivalents at the beginning of the period	110,974	37,111	199%	37,111
Exchange difference cash and cash equivalents	1,041	327	219%	6,692
Cash and cash equivalents at the end of the period	**71,972**	**39,563**	**82%**	**110,974**

Note: Cash and cash equivalents at the end of the period

In Q1 2022, the Company stored SEK 85 million in cash in its SKAT account, shown in other short-term investments. Transfers from SKAT are presented in "Other investing activities" in the full-year 2022 figures. Since the end of Q2 2022, the Company has not stored cash in its SKAT account.

See callout on page 19 for more information.

Income statement – parent

KSEK	Q1 2023	Q1 2022	% change	FY 2022
Operating income				
Net sales	0	0	n/a	508
Total operating income	**0**	**0**	**n/a**	**508**
Operating costs				
Other external costs	-500	-489	2%	-4,901
Personnel costs	-404	-616	-34%	-2,325
Total operating costs	**-904**	**-1,105**	**-18%**	**-7,226**
Operating profit/loss	**-904**	**-1,105**	**-18%**	**-6,718**
Result from financial investments				
Other interest income & similar items	0	0	n/a	1,543
Interest expense & similar items	-124	-26	377%	-38
Total result from financial investments	**-124**	**-26**	**377%**	**1,505**
Profit/loss after financial items	**-1,028**	**-1,131**	**-9%**	**-5,213**
Income tax on the result for the period	0	0	n/a	0
Profit/loss for the period	**-1,028**	**-1,131**	**-9%**	**-5,213**

Balance sheet – parent

KSEK	Q1 2023	YE 2022	% change	Q1 2022
Assets				
Shares in group companies	322,621	321,472	0%	250,290
Total financial non-current assets	**322,621**	**321,472**	**0%**	**250,290**
Total non-current assets	**322,621**	**321,472**	**0%**	**250,290**
Tax receivables	14	14	0%	18
Other receivables	155	110	41%	383
Prepaid expenses and accrued income	468	101	363%	876
Total receivables	**637**	**225**	**183%**	**1,277**
Cash and bank	30	-176	-117%	5,253
Total current assets	**667**	**49**	**1261%**	**6,530**
TOTAL ASSETS	**323,288**	**321,521**	**1%**	**256,820**

KSEK	Q1 2023	YE 2022	% change	Q1 2022
Equity and liabilities				
Share capital	4,179	4,179	0%	3,461
Restricted equity	**4,179**	**4,179**	**0%**	**3,461**
Share premium fund and retained earnings	317,115	320,931	-1%	251,442
Profit/loss for the period	-1,028	-5,213	-80%	-1,131
Unrestricted equity	**316,087**	**315,718**	**0%**	**250,311**
Total equity	**320,266**	**319,897**	**0%**	**253,772**
Payables to group companies	2,660	1,141	133%	2,312
Other liabilities	362	483	-25%	736
Total short-term liabilities	**3,022**	**1,624**	**86%**	**3,048**
TOTAL EQUITY AND LIABILITIES	**323,288**	**321,521**	**1%**	**256,820**

Changes in equity – parent

FY 2022

KSEK	Share capital	Other capital contributions	Other equity including net profit for the period	Total equity
Opening balance as of January 1st, 2022	**3,461**	**259,390**	**-11,179**	**251,672**
Issuance of new shares	718	75,242		75,960
Issuing expenses		-12,185		-12,185
Vesting of share-based compensation		9,663		9,663
Profit-loss for the period			-5,213	-5,213
Total equity as of December 31st, 2022	**4,179**	**332,110**	**-16,392**	**319,897**

YTD 2023

KSEK	Share capital	Other capital contributions	Other equity including net profit for the period	Total equity
Opening balance as of January 1st, 2023	**4,179**	**332,110**	**-16,392**	**319,897**
Vesting of share-based compensation		1,397		1,397
Profit-loss for the period			-1,028	-1,028
Total equity as of March 31st, 2023	**4,179**	**333,507**	**-17,420**	**320,266**

Shareholder information

ExpreS^{2}ion Biotech Holding AB's share was listed at Nasdaq First North Growth Market on July 29, 2016. The trading name of the share is EXPRS2 and the ISIN-code is SE0008348262. As of 31 March 2023, the number of shares in ExpreS^{2}ion Biotech Holding AB amounted to 37,606,796. The average amount of shares in the first quarter of 2023 amounted to 37,606,796. The Company has one class of shares. Each share carries equal rights to share in the Company's assets and earnings.

Certified Advisor
Svensk Kapitalmarknadsgranskning AB
Email: ca@skmg.se
Phone: +46 11 32 30 732
Web: www.skmg.se

List of largest shareholders

Name	Number of shares held	Share of votes and capital
Saxo Bank A/S Client Assets	2,949,170	7.84%
Sydbank A/S	2,078,495	5.53%
Summary, shareholders over 5%	5,027,665	13.37%
Remaining shareholders under 5%	32,579,131	86.63%
Total 31 March 2023	37,606,796	100.00%

Warrants

As of 31 March 2023, the Company had two active series of warrants issued, all of which are part of incentive programs. These series are identified as TO6 and TO7.

TO6 (2020/2024)

On September 23, 2020, the Extraordinary General Meeting resolved to implement an incentive program for management and key persons and issue a maximum of 1,000,000 warrants. All warrants were subscribed for by the Company's subsidiary ExpreS^{2}ion Biotechnologies ApS. As of the publication of this report 955,333 warrants have been transferred to selected employees.

TO7 (2021/2024)

On May 26, 2021, the Annual General Meeting resolved to implement an incentive program for senior executives, employees and other key persons not included in the TO6 program, and issue a maximum of 1,050,000 warrants, of which 797,780 were subscribed for and allocated to the employees as of the publication of this report. All warrants will be subscribed for by the Company's subsidiary ExpreS^{2}ion Biotechnologies ApS.

Other matters

Employees

As of 31 March 2023, there were a total of 30 employees, corresponding to 28 full-time equivalents (FTE's).

Operational risks and uncertainties

The risks and uncertainties that ExpreS^{2}ion's operations are exposed to are summarized in terms of pharmaceutical development, competition, technology development, patents, government requirements, capital requirements, currencies, and interest rates. During the current period, no significant changes regarding risk or uncertainty factors have occurred. For more detailed reporting of risks and uncertainties refer to the Company's annual report for the fiscal year of 2022.

Auditor review

This interim report has not been reviewed by the Company's auditor.

Accounting principles

ExpreS^{2}ion Biotech Holding AB applies the Swedish Annual Accounts Act and Swedish Accounting Standards Board's general standard BFNAR 2012:1 (K3) when preparing its financial statements.

For more information, please contact

Bent U. Frandsen, CEO
Telephone: +45 4256 6869
Email: buf@expres2ionbio.com

Keith Alexander, CFO
Telephone: +45 5131 8147
Email: ka@expres2ionbio.com

Financial calendar

24 May 2023	2023 Annual General Meeting
17 August 2023	Q2 2022 Half-year report
16 November 2023	Q3 2022 Interim report
8 February 2024	2023 Full-year report

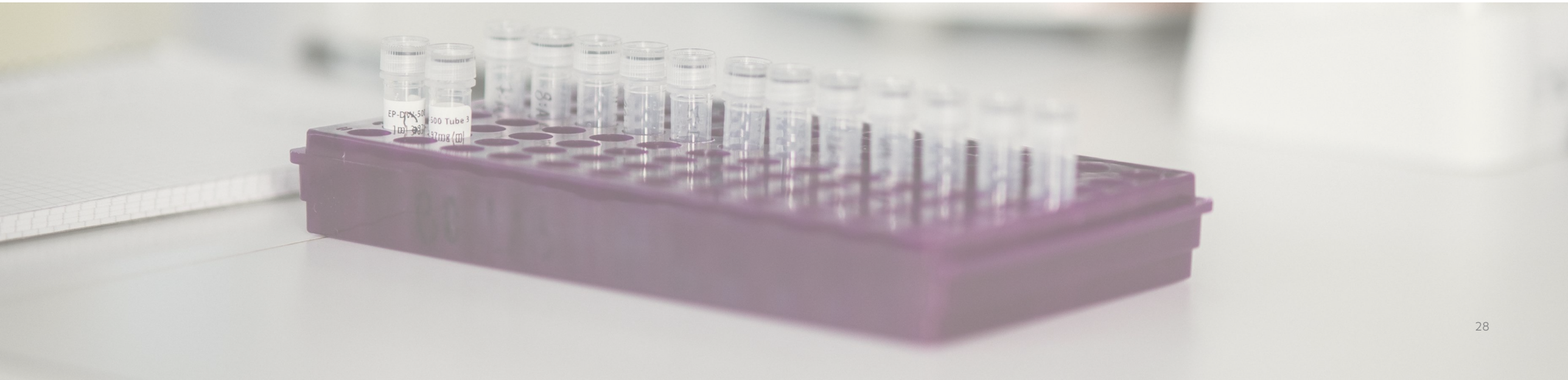
Declaration of The Board of Directors and CEO

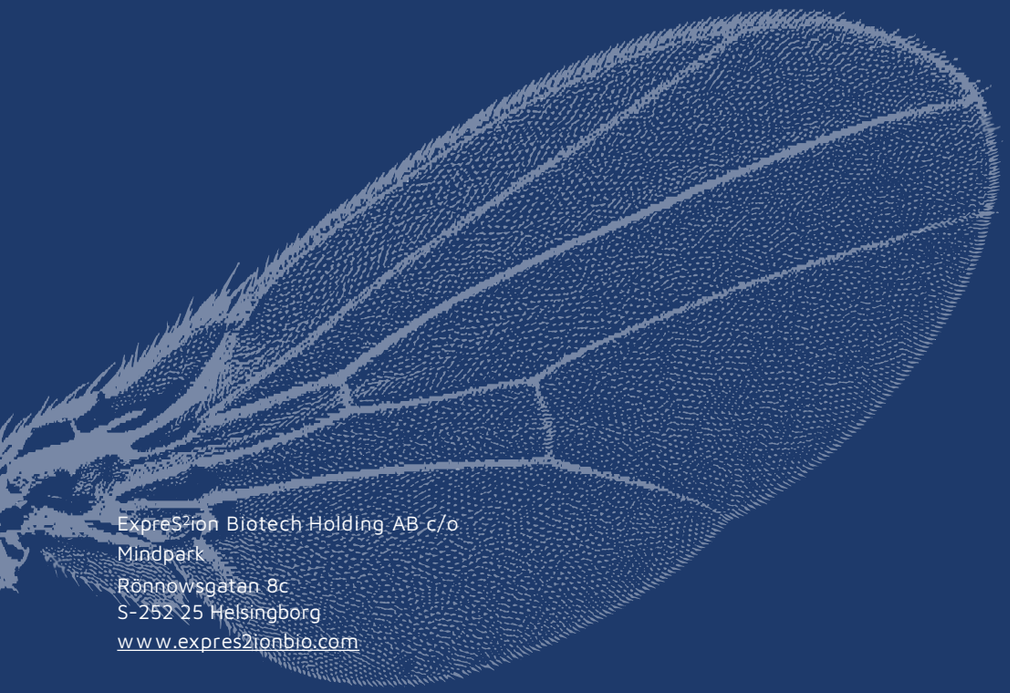
The Board of Directors and CEO assure that the interim report presents a true and fair view of ExpreS^{2}ion Biotech Holding AB's business, operations, position and results.

Hørsholm, Denmark
16 May 2023

ExpreS^{2}ion Biotech Holding AB
c/o Mindpark, Rönnowsgatan 8c, S-252 25 Helsingborg

Board of Directors and CEO





ExpreS²ion Biotech Holding AB c/o
Mindpark
Rönnowsgatan 8c
S-252 25 Helsingborg
www.expres2ionbio.com