2022 Full-Year Report

Proteins for life

EXPRES²ION BIOTECHNOLOGIES

ExpreS²ion 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.

A word from our CEO

"In 2022, ExpreS^{2}ion continued its journey towards becoming a stronger and more pipeline-driven biotechnology company with several high-value assets. Excellent progress was achieved in our leading development projects for COVID-19 and breast cancer, and our ExpreS2™ platform for the development and production of protein-based vaccines was included in its first Phase III evaluation."

The high-profile ABNCoV2 COVID-19 vaccine, licensed to Bavarian Nordic, continued to progress through its clinical program during the year. In February, full data from the Phase II trial confirmed a 2-40-fold increase in SARS-CoV-2 neutralising antibodies in subjects receiving a booster dose with ABNCoV2, followed by the publication in May of equally strong data of the Omicron variant of concern, indicating a broader protection. Later during the year, it was also shown that levels associated with over 90% efficacy remained after six months. The encouraging Phase II results enabled the initiation of a robust double-blind, controlled clinical Phase III study to demonstrate non-inferiority of ABNCoV2 to a licensed mRNA vaccine. The first subject received the first booster shot in the USA in early September, followed by the first Danish study participants in October. Denmark is among the first countries in line for the vaccine, due to the up to DKK 800 million in funding from the Danish Ministry of Health.

The initiation of the ABNCoV2 Phase III study also meant that our ExpreS2 platform was included in a Phase III trial for the first time. This is an important validation for ExpreS^{2}ion as a company, as well as all development projects using the platform. With this milestone achieved, we continued to work hard on further improving and future-proofing the platform. One of the main goals here is to establish the platform as a viable option also in commercial volume manufacturing settings. Important progress

was achieved in this direction, including successful transfer of an improved and much more scalable production process to a manufacturing partner.

The improved production process described above was used during the year in the preclinical program for our leading fully owned pipeline project, the ES2B-C001 HER2-cVLP therapeutic breast cancer vaccine candidate. Here we presented further excellent proof-of-concept data in HER2-transgenic preventive and therapeutic tumour mice models in January. We also had a meeting with the Danish Medicines Agency during the first quarter to discuss our planned non-clinical safety and clinical program for ES2B-C001. Based on the feedback from this meeting, we amended the development program with an additional preclinical safety study. The progress for ES2B-C001 in 2022 significantly de-risked the project, as we demonstrated that our lead candidate efficiently prevents or inhibits tumour development in several relevant breast cancer models and at the same time has an acceptable safety profile judged from preliminary short-term studies in two different animal species.

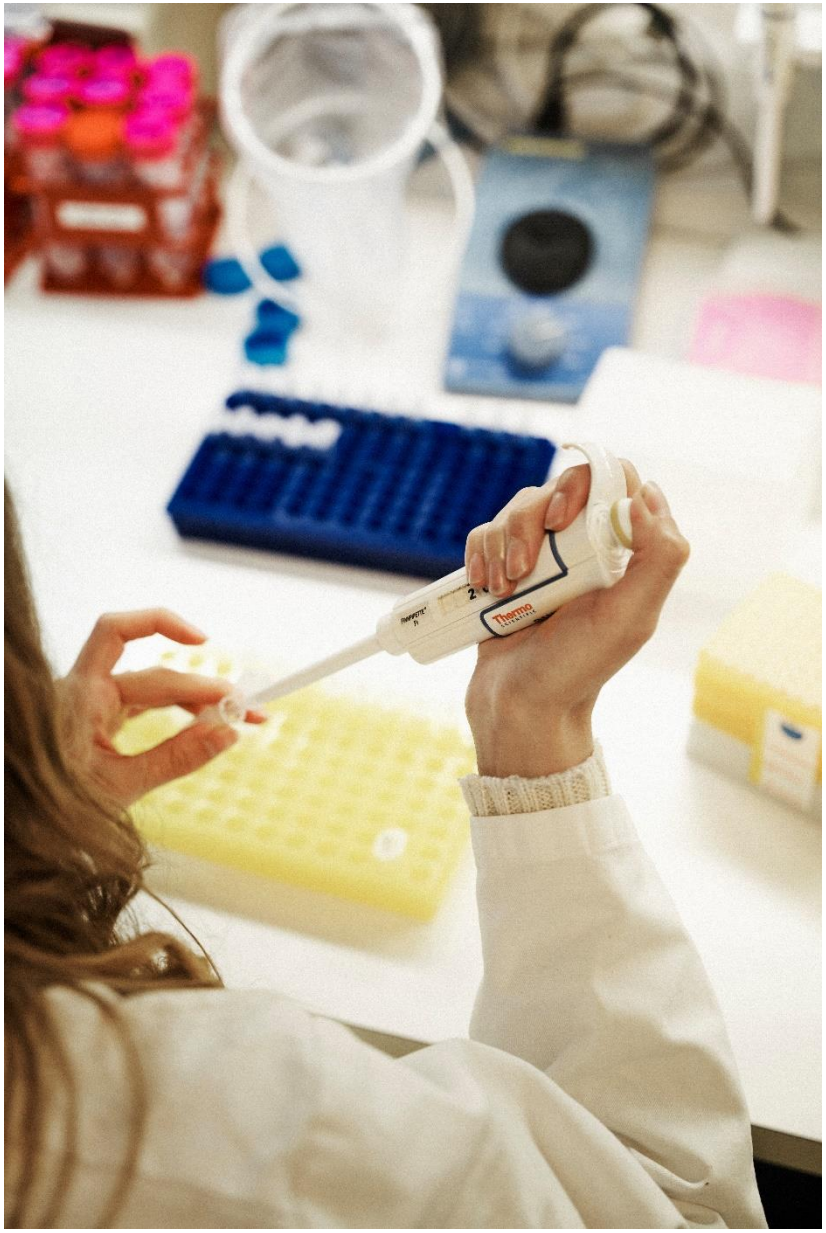
To further strengthen our access to world-leading scientists in the oncology field, an Oncology Scientific Advisory Board (OSAB) was formed in November. This initiative was greeted with an even stronger degree of interest than we anticipated, and the OSAB now includes six members with a depth of knowledge in oncology, breast cancer, clinical trials and therapeutic HER2 vaccines. The OSAB will function as advisors, potential contributors to our planned clinical studies and participants in Key Opinion Leader events.

All in all, I could not be prouder of our impressive progress in all key areas in 2022, with excellent contributions from the whole ExpreS^{2}ion team. We have a strong company culture encouraging creativity and innovation on all levels, and our new research collaboration with Evaxion, presented in December, is a great example of this. This project will allow us to combine our ExpreS2 platform with a powerful AI platform for vaccine candidate discovery and optimization, and thus increase our knowledge while we aim to identify a novel cytomegalovirus (CMV) vaccine candidate. It is also important to acknowledge the strong support from our shareholders, including all existing and new investors who participated in our 73 MSEK rights issue during the spring.

Looking ahead, we are aiming to achieve several exciting milestones in 2023, including the Phase III study results for the ABNCoV2 COVID-19 vaccine and the completion of the preclinical program for our ES2B-C001 breast cancer vaccine and related clinical trial application submission. Last, but not least, despite the headwinds caused by the war in Ukraine, high inflation, and a weakening SEK, I am confident that our unique development focus on novel vaccines against some of the most fatal diseases around, including COVID-19 and breast cancer, will bring important medical solutions that will save many lives in future.

Bent U. Frandsen

CEO, ExpreS^{2}ion Biotech Holding AB



About ExpreS²ion

ExpreS²ion Biotechnologies ApS was founded in 2010 on the realisation that to produce the complex proteins needed for biological drugs and vaccines of the future, in a safer and more efficient manner, a new protein expression system would be needed.

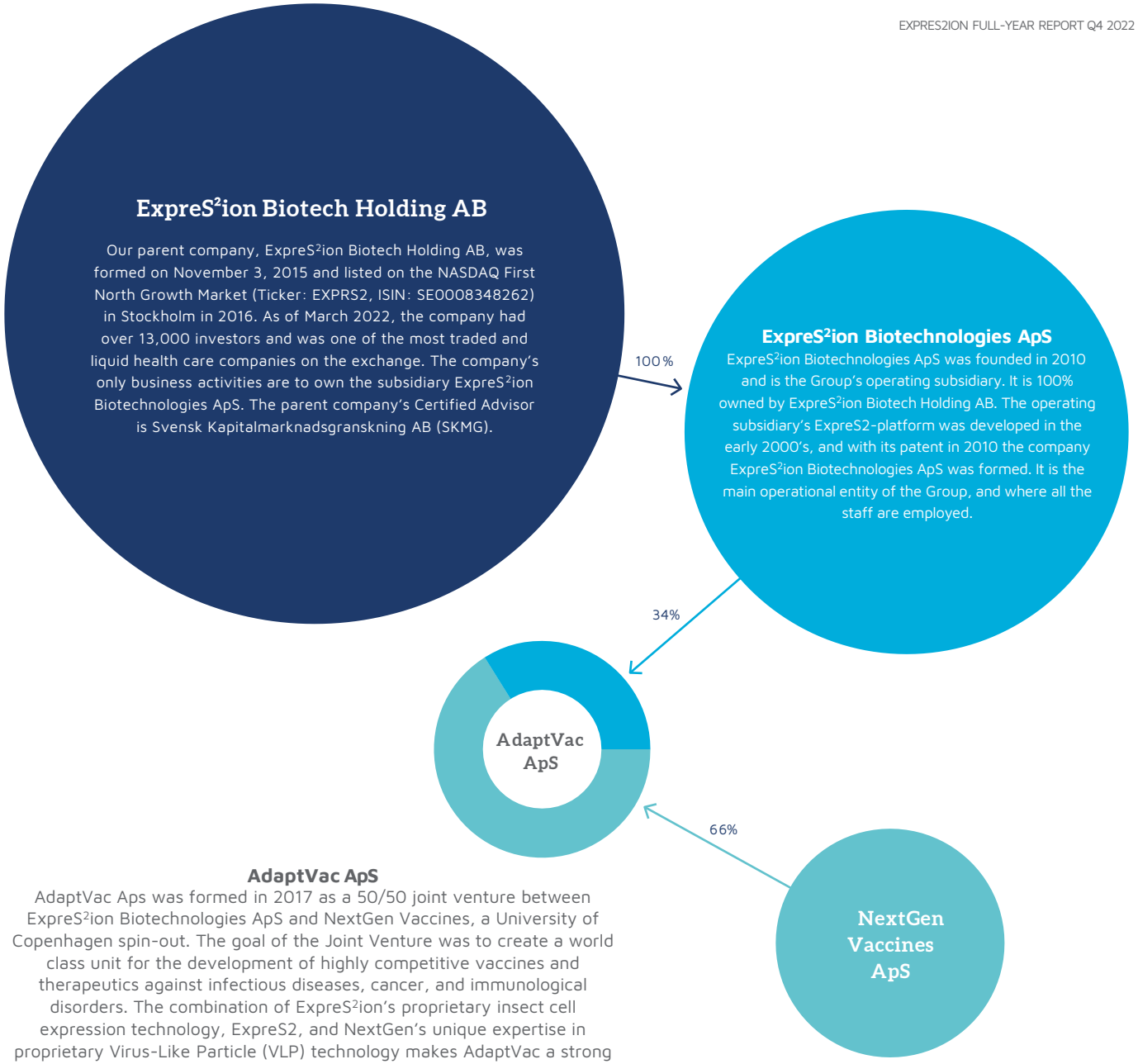
The Company developed the ExpreS2 recombinant protein expression platform supporting all phases of drug discovery and R&D as well as GMP manufacturing for clinical studies. With the ExpreS2 platform, the Company enables high-quality production of complex proteins using *Drosophila melanogaster* (fruit fly) S2 cell lines. ExpreS²ion has emerged as a company capable of solving difficult protein challenges and intends to be at the forefront of vaccine development platforms. Since 2019, ExpreS²ion's offering to the biopharmaceutical industry also includes glycol-engineered S2 cell lines under the GlycoX-S2™ brand. This allows for functional modification, e.g., by enhancing immunogenicity or improving pharmacokinetics. The Company sells licenses to use the ExpreS2 platform as a whole or in part to both pharmaceutical companies and research institutions. All ExpreS²ion's pipeline assets incorporate the ExpreS2 technology.

The Company believes that the strengths of the platform include:

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.

Company structure

ExpreS²ion has a streamlined company structure. ExpreS²ion Biotech Holding AB is the Swedish entity listed on Nasdaq First North Growth Market since 2016. ExpreS²ion 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 ExpreS²ion 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 ExpreS²ion'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 turns complex proteins into tomorrow´s vaccines and aims to become a leading player within infectious diseases and cancer. The Company strives to deliver new preventive and therapeutic products that meet some of the gravest global medical needs. The Company aims to achieve this through scientific excellence, a continued focus on academic and industrial collaborations and a profound loyalty to 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 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, 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 for application as research tools or diagnostics. This model generates short term revenue from the contract research organization (CRO) business, while the pharmaceutical products developed using the Company's tech nology carry potential future royalties, license fees, and milestone payments.

The Company is building its own 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. The agreement with Bavarian Nordic in 2020, under which Bavarian Nordic assumes all future development costs for the COVID-19 vaccine program and pay certain milestones and royalties, subject to external funding, is according to the Company the first example of validated ability to develop new preventive and therapeutic products that meet some of the gravest medical needs.

The Company believes that the combination of an inhouse pipeline of biopharmaceutical drug and vaccine candidates, while maintaining a revenue generating CRO business, puts the Company in a good position to balance risk and return and create value for its shareholders.

Strategy and growth
ExpreS^{2}ion aims to develop the pipeline further by adding additional projects while continuing preclinical and early clinical development work on existing projects. The Company targets human Proof-of-Concept in order to maximize high-value partnerships for further development, but acknowledge that earlier partnering is also an option for progressing pipeline projects. 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

Partners

Broad Customer and Collaborator Base

With over 100 currently active or former academic and industrial service and license contracts, the Company has built a large network in the international research community since its inception in 2010. Furthermore, the Company is currently a part of an inter- national research consortia which together has been granted more than an estimated EUR 40 million of non-dilutive public funding. The Company also sells licenses to use the ExpreS2 platform as a whole or in part, thus allowing its clients to participate in or be entirely responsible for the development of the required proteins. The Company sells ExpreS2 test kits and reagents for application as research tools or diagnostics. The Company may also enter into agreements in which the client accepts a quotation and is charged for the development, production and delivery of research grade proteins, using the ExpreS2 platform.

The Company services both pharmaceu- tical companies and research institutions. The ExpreS2 platform is equally suited for academic research, analytics and commercial drug development, both in vaccines and other biopharma fields. The Company's clients are not limited to any geographic area and are located all over the world. Since its foundation in 2010, the Company has worked with more than 100 clients and partners. The agreements with these clients, which in many cases are world-leading universities, research institutions and pharmaceutical companies, have generated significant revenues for the Company over the years. It currently has more than ten major clients. For instance, the Company has out-licensed the ExpreS2 platform for research to Hoffman-La Roche, Imperial College London and Francis Crick Institute among others, and outlicensed the platform for clinical development to the University of Copenhagen and the Jenner Institute of the University of Oxford, among others.

+100

Since its foundation in 2010, the Company has worked with more than 100 clients and partners

Academics

- Boston Children's Hospital
- Cancer Research, UK
- Harvard Medical School
- Imperial College London
- The Jenner Institute
- Sir William Dunn School of Pathology
- Statens Serum Institute
- Technical University of Denmark (DTU)
- University of Copenhagen
- Department of Biochemistry, University of Oxford

Big Pharma

- Eli Lilly
- Janssen, Pharmaceutical companies of Johnson & Johnson
- Novartis
- Roche
- Servier

Small and medium-sized enterprises, contract manufacturing organizations, diagnostics and retailers

- AGC Biologics
- Genlbet Biopharmaceuticals
- Idorsia
- Integrated biotherapeutics
- Intravacc
- Virion\Serion; SERION Diagnostics

Pipeline

DISEASE	Project / Target	Discovery	Pre-clinical Pharmacology	cGMP / Tox	Phase 1	Phase 2	Phase 3	Market potential
Corona virus 	ABNCoV2/SARS-CoV-2 cVLP							> 100 billion EUR
Breast cancer 	ES2B-C001/Her2 cVLP							> 15 billion EUR
Influenza 	Hemagglutinin							> 4 billion EUR
CMV	ES2B-I002							> 2 billion EUR
Malaria 								> 0.6 billion EUR
I: Blood	RH5							
II: Blood	RH5-VLP							
III: Transmission	Pfs 48/45							
IV: Placental	VAR2CSA							
V: Blood	CYRPA complex							

As of December 2022

Pipeline

CORONAVIRUS/COVID-19

ExpreS^{2}ion 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, designated ABNCoV2. For application of our proprietary protein production system ExpreS2, ExpreS^{2}ion and AdaptVac have also entered into a license agreement for this project.

In addition to ExpreS^{2}ion 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 (Tao, 2015: www.ncbi.nlm.nih.gov/pubmed/25543329). 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.

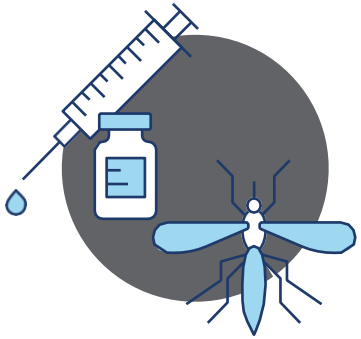
In February 2021, ExpreS^{2}ion signed a final patent license agreement with AdaptVac whereby ExpreS^{2}ion exclusively licensed in AV001 (renamed ES2B-C001). This gives ExpreS^{2}ion full control over and responsibility for driving this valuable asset forward, hereby realising the very significant value of this project. At the end of 2021, ExpreS^{2}ion'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), ExpreS^{2}ion 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.

INFLUENZA

The international next-generation influenza vaccine consortium INDIGO, led by the University of Amsterdam with ExpreS^{2}ion 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 ExpreS^{2}ion'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 ExpreS^{2}ion. 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 ExpreS^{2}ion as a collaboration partner. The RH5.1 antigen is produced in ExpreS^{2}ion'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 ExpreS^{2}ion 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 ExpreS^{2}ion 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)

ExpreS^{2}ion 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 ExpreS^{2}ion 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 ExpreS^{2}ion.

Significant events

Fourth quarter of 2022

On October 6, ExpreS^{2}ion Biotech Holding AB announced that Allan Rosetzsky, with immediate effect, had decided to resign from ExpreS^{2}ion's board of directors. Hereafter the board of directors will consist of Martin Roland Jensen (Chair), Jakob Knudsen, Karin Garre, and Sara Sande.

On October 17, ExpreS^{2}ion announced that follow-up results from Bavarian Nordic's Phase II clinical trial for the ABNCoV2 capsid virus-like particle (cVLP) based COVID-19 booster vaccine show that antibody titers remained high at levels associated with greater than 90% efficacy six months after vaccination for both the Wuhan and the Omicron variant.

On October 24, ExpreS^{2}ion announced that the journal Biomedicines published an article about the breast cancer vaccine candidate ES2B-C001 titled "Prevention and therapy of metastatic HER-2+ mammary carcinoma with a human candidate HER-2 virus-like particle vaccine".

On November 3, ExpreS^{2}ion announced the establishment of an Oncology Scientific Advisory Board (OSAB). The six initial members of the ExpreS^{2}ion OSAB bring a depth of knowledge in oncology, breast cancer, clinical trials and therapeutic HER2 vaccines, and will contribute to the development of ExpreS^{2}ion's proprietary HER2-cVLP breast cancer vaccine, ES2B-C001. The OSAB will serve as advisors, potential contributors to the planned clinical studies and participants in Key Opinion Leader events for the scientific community and investors.

On November 17, ExpreS^{2}ion Biotech Holding AB announced its third quarter financial results for 2022.

On December 6, ExpreS^{2}ion announced that the company has signed a Vaccine Discovery Collaboration Agreement with Evaxion Biotech A/S (NASDAQ: EVAX) ("Evaxion") 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 intelligence (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..

Subsequent events

On January 3, ExpreS^{2}ion announced the appointment of Dr. Farshad Guirakhoo as the Company's new Chief Scientific Officer (CSO). Dr. Guirakhoo has more than 30 years of broad translational research experience in the vaccine development field, and will be responsible for directing the development of the discovery and preclinical strategies and plans that support ExpreS2ion's development pipeline of unique vaccine assets, including managing the progression of ExpreS2ion's vaccine technology platform. Dr. Guirakhoo starts his employment on January 16, 2023 at ExpreS2ion's headquarters in Hørsholm, Denmark.

On January 20, ExpreS^{2}ion announced that that the journal The Lancet Microbe published an article about the COVID-19 vaccine candidate ABNCoV2 titled "First-in-human use of a modular capsid virus-like vaccine platform: an open-label, non-randomised, phase 1 clinical trial of the SARS-CoV-2 vaccine ABNCoV2" co-authored by ExpreS2ion scientists.

Advancing towards key catalysts

	2022	2023	2024+
 CORONAVIRUS/ COVID-19 ABNCoV2	✓ BN Phase II trial readout H1 ✓ BN Phase III trial initiation Q3	BN Phase III initial readout in early 2023 BN initiating rolling submission BN ready for market launch (subject to regulatory approval)	
 BREAST CANCER ES2B-C001	✓ Preclinical animal proof-of-concept results H1 ✓ GMP manufacturing processing	Preclinical safety studies readout Filing of clinical trial application H2 2023	Initiation of first human clinical study 2024 Outlicensing window opens pending human data
 INFLUENZA	✓ Advance/support further development of one or more candidates	cGMP/Preclinical safety studies initiation (subject to new grant funding)	
CYTOMEGALOVIRUS (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		Pfs 48/45 phase I trial initiation RH5-VLP phase I initiation RH5 phase I trial readout H2	

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

Summary of Q4 & full-year results

Fourth Quarter (October – December 2022)

- Operating income amounted to 1,583 (4,430) KSEK.
- Profit/loss after financial items amounted to -53,287 (-14,944) KSEK.
- Profit/loss for the period amounted to -48,533 (-14,320) KSEK.
- Net income per share* amounted to -1.29 (-0.46) SEK.

Full-Year (January – December 2022)

- Operating income amounted to 6,150 (13,730) KSEK.
- Profit/loss after financial items amounted to -126,581 (-47,516) KSEK.
- Profit/loss for the period amounted to -118,605 (43,925) KSEK.
- Net income per share* amounted to -3.38 (-1.50) SEK.

Key financials

SEK '000s	Q4 2022	Q4 2021	% Change	FY 2022	FY 2021	% Change
Operating income	1,583	4,430	-64%	6,150	13,730	-55%
Profit/loss after financial items	-53,287	-14,944	257%	-126,581	-47,516	166%
Profit/loss for the period	-48,533	-14,320	239%	-118,605	-43,925	170%
Earnings per share*	-1.29	-0.46	181%	-3.38	-1.50	125%
Cash balance, end of period	110,974	37,111	199%	110,974	37,111	199%
Cash balance including SKAT balance, end of period**	110,974	138,880	-20%	110,974	138,880	-20%
Total assets	137,363	151,956	-10%	137,363	151,956	-10%
Equity/asset ratio (%)***	75%	92%	-17%	75%	92%	-17%

Figures in parenthesis are the numbers from the same period in 2021.

**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 December 2022, the average number of shares amounted to 35,096,168. As of 31/12/2022, 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 is charged. See callout on balance sheet page.*

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

Financial overview

Development in figures for Q4 2022

Operating income

Total operating income during the fourth quarter of 2022 amounted to KSEK 1,583 (4,430), which was 64% lower compared to the same period last year due to the Company's increased focus on its development pipeline. Net sales from client projects, licenses and web store purchases fell 71% compared to Q4 2021, while other operating income, which primarily reflects grants, also decreased 41% year-over-year.

Profit/loss for the period

The net loss for the fourth quarter of 2022 amounted to KSEK -48,533 (-14,320). The lower result is primarily driven by a SEK 36 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 a lower operating income (SEK 3,2 million) mentioned above. These costs where partially offset by a decrease in personnel costs of (SEK 3.4 million) where the fourth quarter of 2021 contained the introduction of the TO7 share based compensation scheme, which had a non-cash impact, and an increase in the income tax benefit (SEK 4.1 million) due to the increase in R&D costs.

Cash and cash equivalents

As of December 31, 2022, ExpreS^{2}ion's cash and bank amounted to KSEK 110,974 (138,880 including the Company's SKAT balance*). During the quarter, cash decreased by SEK 39 million driven by negative cash flow from operations of SEK 39 million, driven by the factors mentioned in the paragraphs above.

Development in figures year-to-date 2022

Operating income

Total operating income for the year 2022 amounted to KSEK 6,150 (13,730), which was 55% lower compared to the same period last year. Net sales from client projects, licenses and purchases from our web store of SEK 5.1 million reflects a decrease of 58% year-over-year, whereas grant income of SEK 1.1 million reflects a year-over-year decrease of 29%.

Profit/loss for the period

The net loss for the year 2022 amounted to KSEK -118,605 (-43,925). The lower result is primarily driven by a SEK 61.5 million increase in R&D costs, which related to the CMC and preclinical development of the breast cancer vaccine candidate ES2B-C001. Other significant drivers include higher personnel costs (SEK 8.9million) due to a higher headcount and non-cash incentive compensation charges that are reversed in the cash flow statement, and the lower operating income (SEK 8 million) mentioned above. Partially offsetting is and an increase in the accrued R&D tax credit (SEK 4.4 million) and a reduction in costs attributed to raw materials (SEK 2.4 million). The full-year figures are similarly impacted by the 3Q 2021 grant income reversal mentioned in the 3Q 2022 interim report. After adjusting for the reversal, other external costs increased by approximately SEK 4.2 million, reflecting an increase in premises, insurance and other costs partially offset by income from financial investments.

Financial position

The Company monitors its liquidity position and forecasts rolling twelve-month cash requirements monthly to identify liquidity risks and enable the Board of Directors and Executive Management to prepare for new financing transactions and/or take relevant tactical or strategic actions to allow the company to continue its research and development activities as planned as a going concern. The Company plans to obtain additional sources of funding in 2023. This could be in the form of issuance of new shares, non-dilutive financing, entering license and research and development collaboration agreements, expense management activities, renegotiating terms for current outstanding debt instruments or a combination of such.

This report has been prepared using the same accounting principles as used for the 2021 Annual report published 4 May 2022. All figures refer to group results unless stated otherwise. Figures in parenthesis are from the same period in 2021.
**Please refer to the financial overview in the 2021 year-end report for more information.*

Income statement – group

KSEK	Q4 2022	Q4 2021	% change	YTD 2022	YTD 2021	% change
Operating income						
Net sales	972	3,398	-71%	5,086	12,234	-58%
Other operating income	611	1,032	-41%	1,064	1,496	-29%
Total operating income	**1,583**	**4,430**	**-64%**	**6,150**	**13,730**	**-55%**
Operating costs						
Raw materials & consumables	-1,330	-1,172	13%	-5,081	-7,513	-32%
Research & development costs	-38,014	-1,985	1815%	-71,324	-9,815	627%
Other external costs	-4,136	-2,796	48%	-14,826	-3,516	322%
Personnel costs	-10,914	-14,351	-24%	-41,309	-32,374	28%
Depreciation of tangible & intangible fixed assets	-271	-319	-15%	-1,216	-1,809	-33%
Other operating expenses	0	0	n/a	0	-7,099	-100%
Total operating costs	**-54,665**	**-20,623**	**165%**	**-133,756**	**-62,126**	**115%**
Operating profit/loss	**-53,082**	**-16,193**	**228%**	**-127,606**	**-48,396**	**164%**
Result from financial investments						
Result in associated companies	0	0	n/a	0	671	-100%
Other interest income & similar items	-121	0	n/a	1,896	0	n/a
Interest expense & similar items	-84	1,249	-107%	-871	209	-516%
Total result from financial investments	**-205**	**1,249**	**-116%**	**1,025**	**880**	**16%**
Profit/loss after financial items	**-53,287**	**-14,944**	**257%**	**-126,581**	**-47,516**	**166%**
Income tax on the result for the period	4,754	624	662%	7,976	3,591	122%
Profit/loss for the period	**-48,533**	**-14,320**	**239%**	**-118,605**	**-43,925**	**170%**

Balance sheet – group

KSEK	Q4 2022	YE 2021	% change
Assets			
Concessions, patents, licenses, trademarkets and similar intellectual rights	2,953	3,141	-6%
Total non-current intangible assets	**2,953**	**3,141**	**-6%**
Plants and machinery	910	1,209	-25%
Total non-current tangible assets	**910**	**1,209**	**-25%**
Interest in associated companies	25	23	9%
Other long-term receivables	1,532	1,119	37%
Total non-current financial assets	**1,557**	**1,142**	**36%**
Total non-current assets	**5,420**	**5,492**	**-1%**
Accounts receivable	826	1,623	-49%
Tax receivables	8,249	3,470	138%
Other receivables	1,719	2,012	-15%
Prepaid expenses and accrued income	10,175	479	2024%
Total receivables	**20,969**	**7,584**	**176%**
Other short-term investments	0	101,769	-100%
Total short-term investments	**0**	**101,769**	**-100%**
Cash and bank	110,974	37,111	199%
Total current assets	**131,943**	**146,464**	**-10%**
TOTAL ASSETS	**137,363**	**151,956**	**-10%**

KSEK	Q4 2022	YE 2021	% change
Equity and liabilities			
Share capital	4,179	3,461	21%
Other capital contributions	338,651	266,243	27%
Other equity including net loss for the period	-239,503	-129,358	85%
Total equity	**103,327**	**140,347**	**-26%**
Provision for taxes	608	671	-9%
Total provisions	**608**	**671**	**-9%**
Other long-term liabilities	2,002	3,477	-42%
Total long-term liabilities	**2,002**	**3,477**	**-42%**
Liabilities to credit institutions	1,763	1,918	-8%
Accounts payable	12,152	1,685	621%
Other liabilities	17,511	3,858	354%
Total short-term liabilities	**31,426**	**7,461**	**321%**
TOTAL EQUITY AND LIABILITIES	**137,363**	**151,956**	**-10%**

Note: Cash and bank

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, shown in other short-term investments. For more information, please see the full-year 2021 and Q1 2022 financial reports.

Changes in equity – group

FY 2021

KSEK	Share capital	Other capital contributions	Other equity including net profit for the period	Total equity
Opening balance as of January 1st, 2021	**3,067**	**178,042**	**-86,561**	**94,548**
Issuance of new shares	394	82,910		83,304
Issuing expenses		-6,778		-6,778
Vesting of share-based compensation		11,756		11,756
Exchange difference for the period			1,442	1,442
Profit-loss for the period			-43,925	-43,925
Total equity as of December 31st, 2021	**3,461**	**265,931**	**-129,045**	**140,347**

YTD 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**	**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**

Cash flow statement – group

KSEK	Q4 2022	Q4 2021	% change	YTD 2022	YTD 2021	% change
Operating profit/loss	-53,082	-16,193	228%	-127,606	-48,396	164%
Adjustments for items not included in the cash flow	1,983	8,874	-78%	10,816	13,486	-20%
Received interest	-121	0	26143%	1,896	0	n/a
Interest paid	-9	-323	-97%	-2,720	-1,194	128%
Income tax received	3,584	2,807	28%	3,589	2,795	28%
Cash flow from operating activities before changes in working capital	**-47,645**	**-4,834**	**886%**	**-114,025**	**-33,309**	**242%**
Decrease(+)/increase(-) of current receivables	-3,821	1,837	-308%	-8,187	-1,350	506%
Decrease(+)/increase(-) of current liabilities	12,034	-1,318	-1013%	22,598	-10,988	-306%
Cash flow from operating activities	**-39,432**	**-4,315**	**814%**	**-99,614**	**-45,646**	**118%**
Investments in associated companies	0	0	n/a	0	682	-100%
Investments in intangible non-current assets	0	0	n/a	0	45	-100%
Investments in tangible non-current assets	-193	0	n/a	-383	-715	-46%
Other investing activities	1,033	-100,933	-101%	105,708	-100,933	-205%
Cash flow from investing activities	**840**	**-100,933**	**-101%**	**105,325**	**-100,921**	**-204%**
Leasing agreement	-94	-156	-40%	-524	-621	-16%
Loans	-460	-347	33%	-1,791	-1,361	32%
Issuance of new shares	0	0	n/a	75,960	83,304	-9%
Costs of issuing shares	0	0	n/a	-12,185	-6,778	80%
Cash flow from financing activities	**-554**	**-503**	**10%**	**61,460**	**74,545**	**-18%**
Cash flow for the period	**-39,146**	**-105,751**	**-63%**	**67,171**	**-72,023**	**-193%**
Cash and cash equivalents at the beginning of the period	149,560	141,998	5%	37,111	106,832	-65%
Exchange difference cash and cash equivalents	560	864	-35%	6,692	2,302	191%
Cash and cash equivalents at the end of the period	**110,974**	**37,111**	**199%**	**110,974**	**37,111**	**199%**

Note: Cash and cash equivalents at the end of the period
At the end of Q2 2022, the Company no longer stored any cash in its SKAT account. The transfers from SKAT are presented in "Other investing activities."

See callout on page 18 for more information.

Income statement – parent

KSEK	Q4 2022	Q4 2021	% change	YTD 2022	YTD 2021	% change
Operating income						
Net sales	307	201	53%	508	368	38%
Total operating income	**307**	**201**	**53%**	**508**	**368**	**38%**
Operating costs						
Other external costs	-1,736	-1,471	18%	-4,901	-4,501	9%
Personnel costs	-566	-1,663	-66%	-2,325	-2,670	-13%
Total operating costs	**-2,302**	**-3,134**	**-27%**	**-7,226**	**-7,171**	**1%**
Operating profit/loss	**-1,995**	**-2,933**	**-32%**	**-6,718**	**-6,803**	**-1%**
Result from financial investments						
Other interest income & similar items	605	1,015	-40%	1,543	1,015	52%
Interest expense & similar items	-2	-329	-99%	-38	-181	-79%
Total result from financial investments	**603**	**686**	**-12%**	**1,505**	**834**	**80%**
Profit/loss after financial items	**-1,392**	**-2,247**	**-38%**	**-5,213**	**-5,969**	**-13%**
Income tax on the result for the period	0	0	n/a	0	0	n/a
Profit/loss for the period	**-1,392**	**-2,247**	**-38%**	**-5,213**	**-5,969**	**-13%**

Balance sheet – parent

KSEK	Q4 2022	YE 2021	% change
Assets			
Shares in group companies	321,472	247,563	30%
Total financial non-current assets	**321,472**	**247,563**	**30%**
Total non-current assets	**321,472**	**247,563**	**30%**
Tax receivables	14	18	-22%
Other receivables	110	179	-39%
Prepaid expenses and accrued income	101	86	17%
Total receivables	**225**	**283**	**-20%**
Cash and bank	-176	5,220	-103%
Total current assets	**49**	**5,503**	**-99%**
TOTAL ASSETS	**321,521**	**253,066**	**27%**

KSEK	Q4 2022	YE 2021	% change
Equity and liabilities			
Share capital	4,179	3,461	21%
Restricted equity	**4,179**	**3,461**	**21%**
Share premium fund and retained earnings	320,931	254,180	26%
Profit/loss for the period	-5,213	-5,969	-13%
Unrestricted equity	**315,718**	**248,211**	**27%**
Total equity	**319,897**	**251,672**	**27%**
Payables to group companies	1,141	790	44%
Other liabilities	483	604	-20%
Total short-term liabilities	**1,624**	**1,394**	**16%**
TOTAL EQUITY AND LIABILITIES	**321,521**	**253,066**	**27%**

Changes in equity – parent

FY 2021

KSEK	Share capital	Other capital contributions	Other equity including net profit for the period	Total equity
Opening balance as of January 1st, 2021	**3,067**	**171,502**	**-5,210**	**169,359**
Issuance of new shares	394	82,910		83,304
Issuing expenses		-6,778		-6,778
Vesting of share-based compensation		11,756		11,756
Profit-loss for the period			-5,969	-5,969
Total equity as of December 31st, 2021	**3,461**	**259,390**	**-11,179**	**251,672**

YTD 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**

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 December 2022, the number of shares in ExpreS^{2}ion Biotech Holding AB amounted to 37,606,796. The average amount of shares in the fourth quarter of 2022 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	1,937,187	5.15%
Summary, shareholders over 5%	1,937,187	5.15%
Remaining shareholders under 5%	35,669,609	94.85%
Total 31 December 2022	37,606,796	100.00%

Warrants

As of 31 December 2022, 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 December 2022, there were a total of 29 employees, corresponding to 27 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 2021.

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

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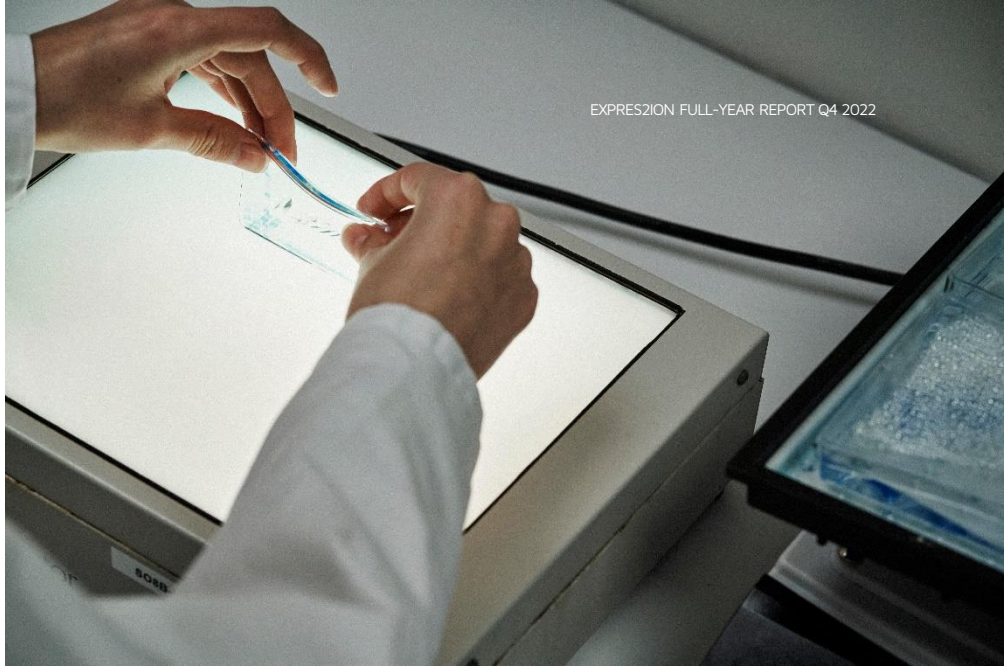


Financial calendar

9 February 2023	2022 Full-year report
16 May 2023	Q1 2023 Interim report
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

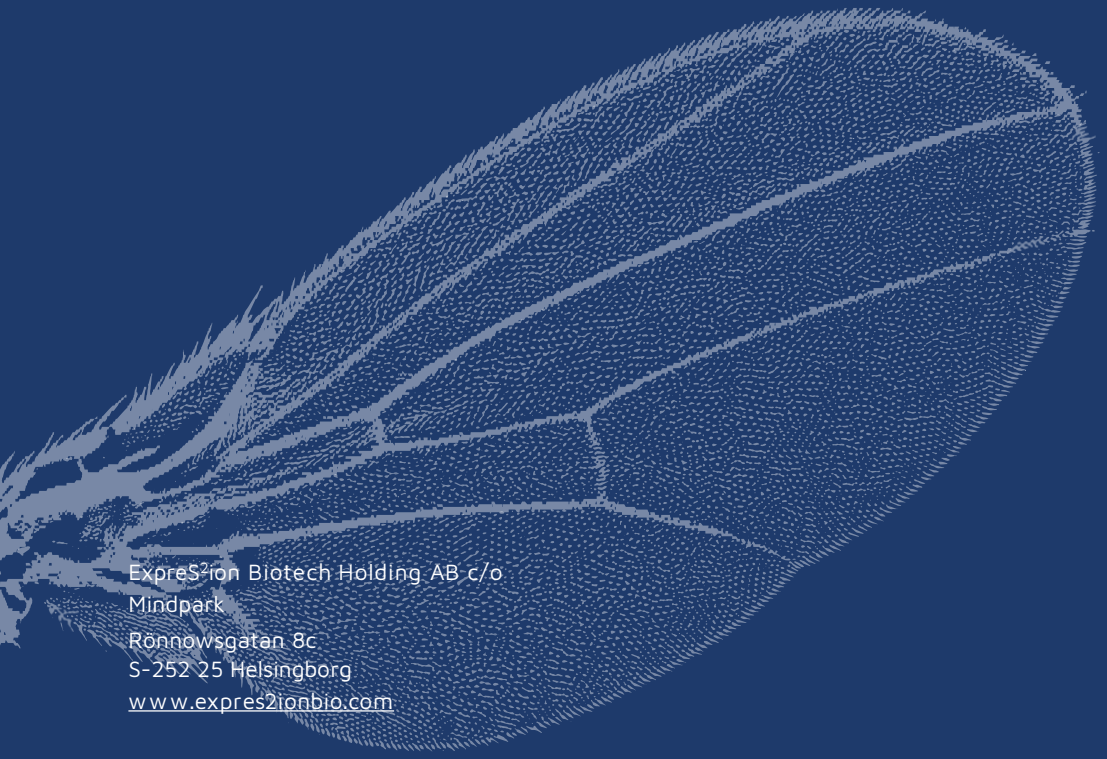
Declaration of The Board of Directors and CEO

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
9 February 2023

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

Board of Directors and CEO



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