



Innovative vaccines for a healthier world

22 November 2023

EXPRES²ION
BIOTECHNOLOGIES

ExpreS²ion Biotech Holding AB Org. Nr. 559033-3729

Hosted by



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Agenda

- **Leadership, platform and pipeline**
- Q3 2023 update
- Outlook

Leadership

Greater than 200 years deep professional experience to support a pipeline-driven business

Management Team



Bent U. Frandsen, CEO

- MSc in Finance/Strategic Management, Copenhagen Business School, Denmark
- >25 years industry finance, business dev. and management experience



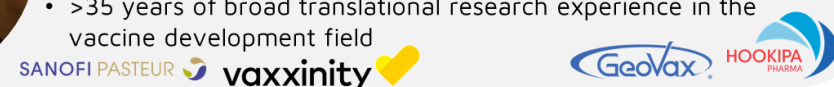
Keith Alexander, CFO

- MBA, The Wharton School and the University of Pennsylvania, USA
- >20 years of equity research, corporate strategy, asset management and consulting experience



Dr. Farshad Guirakhoo, CSO

- PhD in Virology from the Medical University of Vienna, Austria, and an MSc in Genetics from the International Institute for Biophysics and Biochemistry at the University of Tehran
- >35 years of broad translational research experience in the vaccine development field



Dr. Max Soegaard, SVP of R&D and Technology

- PhD in Biochem., UCL, UK, and MSc in Molecular Biology; AU, Denmark
- >20 years academic and industrial research experience



Board of Directors



Dr. Martin Roland Jensen, Chairman

- PhD. in Molecular and Cell Biology, Univ. of Copenhagen, Denmark
- >35 years biotech industry management and co-founder experience, incl. scientific work in immunology and cancer vaccine development



Jakob Knudsen, Board Member

- Law Degree from Univ. of Copenhagen, and MBA, Imperial College, UK
- >25 years commercial experience from international biotech industry



Dr. Karin Garre, Board Member

- MD, from University of Copenhagen, Denmark
- >30 years bio-industry management and drug development experience from early to late-stage phases and registration



Sara Sande, Board Member

- MSc in Economics, from University of Copenhagen, Denmark
- >20 years leadership experience in high-tech B2B companies, incl. sales excellence, strategy and commercial development



Unique technology platforms

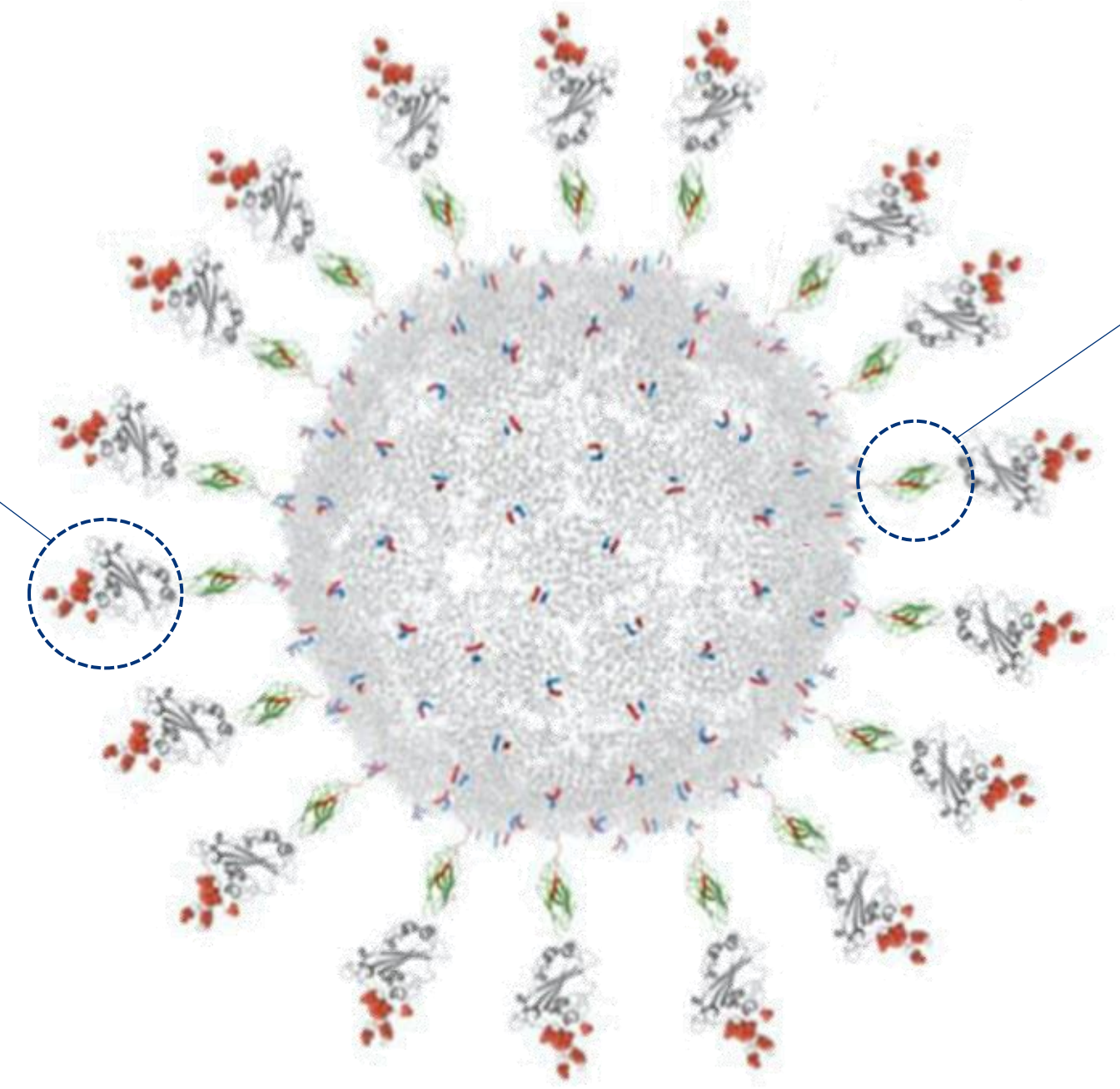
Combines a highly immunogenic antigen with unique presentation technology

ExpresS2™ platform

- Combines S2 cells with patented expression vectors (add a specific gene into a target cell and command the cell to produce the gene encoded protein), adapted culture agents and reagents (stimulating cell growth)
- Produces the complex surface proteins (antigens), which are critical to immune system recognition and response

100% ownership

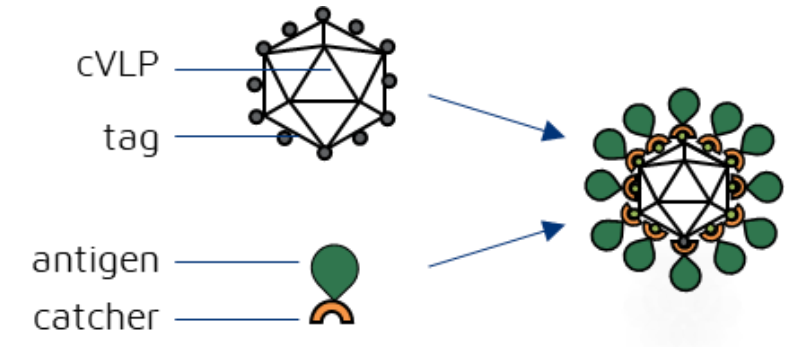
ExpresS2™ technology platform applied to express antigens in all pipeline assets, including therapeutic HER2 vaccine, COVID-19, Influenza, CMV, and Malaria



Particle (VLP) technology

- AdaptVac's proprietary virus-like particles (VLP) technology securely attaches our proteins to the surface of a capsid (outer protein protective shell of a virus), mimicking a virus to elicit an immune response

34% ownership






cVLP: Capsid Virus Like Particle

Same technology platform applied for the therapeutic HER2 vaccine and COVID-19 vaccine ABN-CoV2

¹ Schneider I (1972). "Cell Lines Derived from Late Embryonic Stages of *Drosophila melanogaster*". *J. Embryol. Exp. Morphol.* 27: 363-365.
 Note: ExpresS²ion Biotech founders invented an Improved Vector System derived from S2 cells; granted patent until 2032 (US); glyco-engineered S2 cells pending patents until 2040. ExpresS²ion co-founded AdaptVac in 2017. Today ExpresS²ion holds 34% ownership, and NextGen Vaccines (VLP technology inventors) holds 66% ownership.

Broad clinical stage vaccine pipeline

DISEASE	Project/Target ID	Target Identification	Pre-clinical Pharmacology	cGMP / Tox	Phase I	Phase II	Phase III	Partner/Funding
COVID-19	ABNCoV2/SARS-CoV-2 cVLP						Ph. III finalised	 BAVARIAN NORDIC
Breast Cancer	ES2B-C001/HER2-cVLP			GMP / tox final stages				100% EXPRES ² ION
Influenza								
Hemagglutinin	INDIGO							
Mucosal	MUCOVAX							UNIVERSITY OF COPENHAGEN /nnovationsfonden Grand Solutions
CMV	ES2B-I002							50% / 50% EXPRES ² ION EVAXION
Malaria								
Blood-Stage	RH5.1					Ph. II initiated		
Blood-Stage	RH5.2-VLP				Ph. I initiated			
Transmission	Pfs 48/45				Ph. I initiated			
Blood-Stage	RH5.1 + R78C				Ph. I initiated			
Exploratory	Undisclosed							

Pipeline as of November 2023.
 Only ABNCoV2 and ES2B-C001 apply both ExpreS²™ and AdaptVac's VLP technologies.
 Note: AdaptVac is an associated company of ExpreS²ion (34% ownership share) and NextGen Vaccines (66% share)

Significant events in 2023

Agenda

- Leadership, platform and pipeline
- **Q3 2023 update**
- Outlook



ABNCoV2 COVID-19 booster vaccine

Accelerated development path has confirmed clinical PoC and Phase III-validation

2020-2021

- Phase I
- PREVENT-nCoV consortia of biotech and academia partners

2021-2022

- Phase II
- Sponsored by Bavarian Nordic
- June 2023: 12-months durability data
- **Clinical proof of concept – THE ONLY NON-ADJUVANTED VLP WITH LONG-TERM PROTECTION**

2022-2023

- Phase III
- Sponsored by Bavarian Nordic
- June 2023: Met primary end-point
- **DEMONSTRATING NON-INFERIORITY AGAINST A COMMERCIAL mRNA COVID-19 VACCINE (COMIRNATY®)**

Same clinically Phase III-validated technology platforms applied in our therapeutic breast cancer vaccine ES2B-CO01



Q3 update on ABNCoV2 Phase III

- Bavarian Nordic (BN) reported the secondary endpoint results for their Phase III clinical trial
- Did not successfully meet secondary endpoint: to demonstrate protection against the XBB.1.5 variant
- BN concludes, “No commercial opportunity for the vaccine”

**Update on
COVID-19 booster
vaccine program**



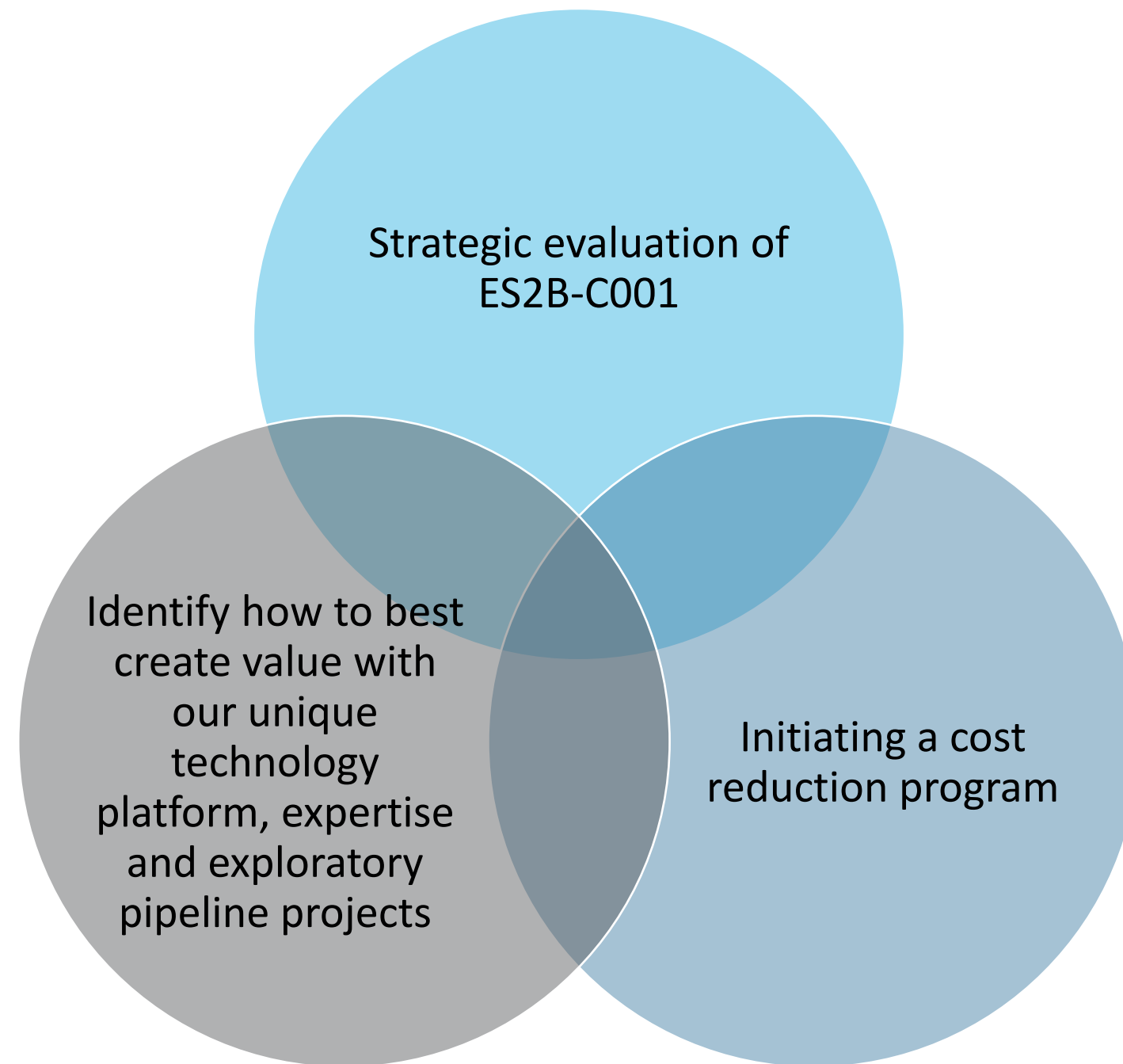
- Reduced options for raising capital
- Assumptions for T08 warrant subscription proceeds changed:
 - SEK 54.5M prospects at April 2023 rights issue, became SEK 3.4M raised
- Proceeds planned for the development of ES2B-C001/breast cancer vaccine
- Consequently, ExpreS²ion initiated a strategic review

**Impact on
ExpreS²ion**



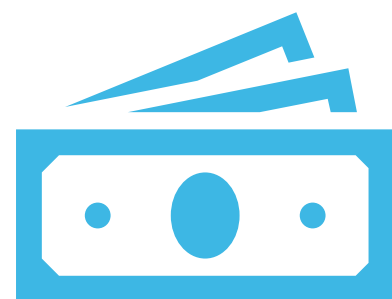
Strategic review

Announced in August 2023

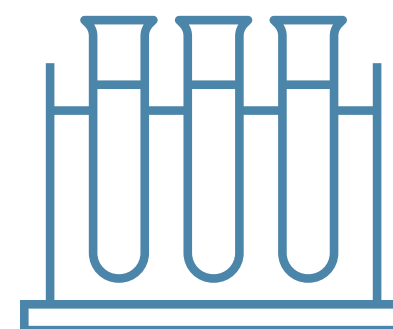


Outcome of strategic review (I)

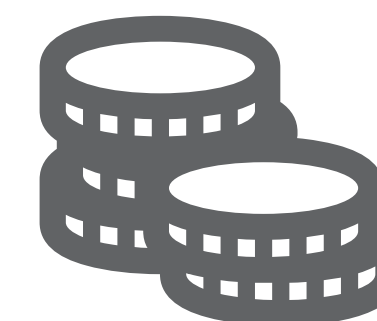
Cost reductions



Cut over SEK 50 million in costs



Reductions primarily in R&D, personnel and facilities



Cash runway into 2025

Outcome of strategic review (II)

ES2B-C001 breast cancer vaccine candidate

Halted plan for CRO-driven Phase I clinical trial



Continuing preparations for advancing into clinical development

Preclinical safety studies

GMP manufacturing

Regulatory alignment



Evaluating other development options

Investigator-driven
Phase I clinical trial

Asset sale

Partnership

Out-licensing

Outcome of strategic review (III)

Other activities, including other pipeline assets and platform development



Enhancing focus on certain exploratory pipeline projects

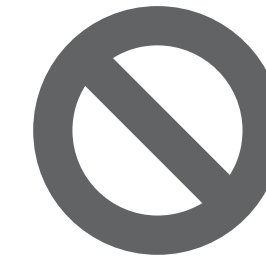


Qualification of various factors driving prioritization

Timeline leading to value inflection points

Project funding status – non-dilutive (i.e. grant) funding a significant advantage

Cost/benefit analysis



Saying “no” to lower priority activities

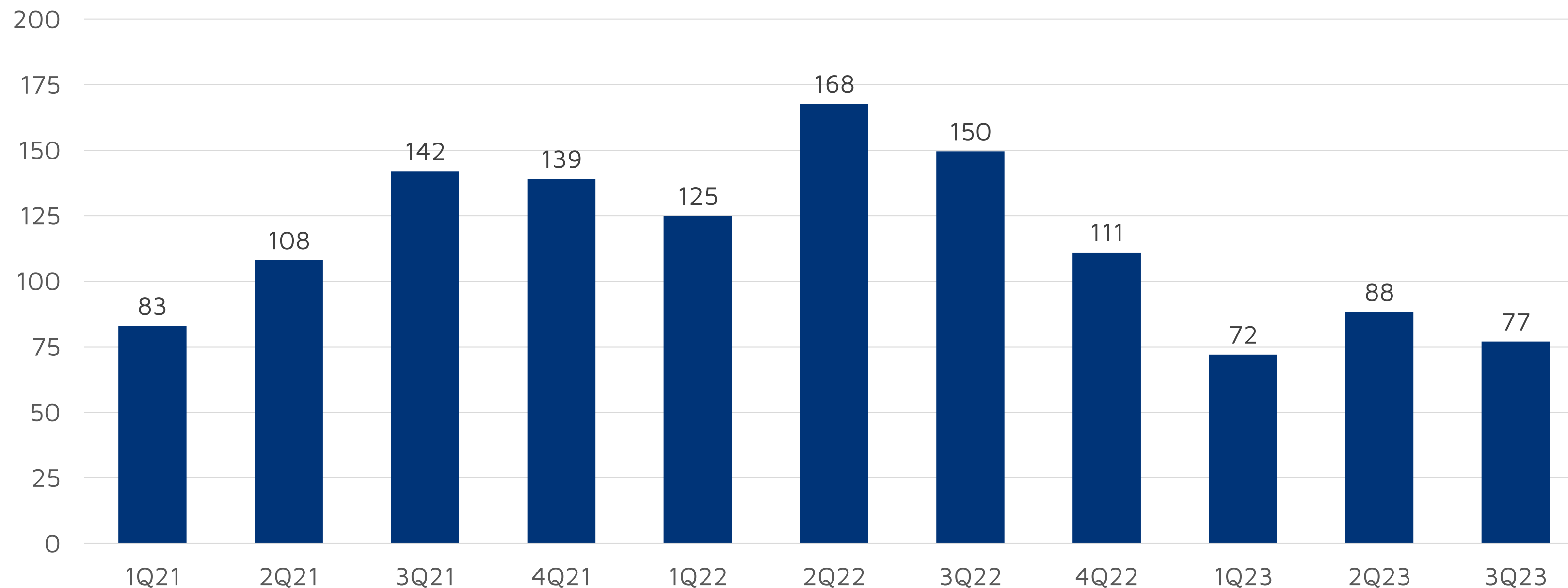
CRO projects must meet more stringent requirements

Exploratory activities must be grant funded or when resources permit

Develop innovative vaccines with a faster and less costly path to value creation

Cash balance, 1Q21 – 3Q23 quarterly

SEK millions



Agenda

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Breast cancer - the most common cancer

1 in 8

women will be diagnosed with invasive breast cancer in her lifetime

~25%

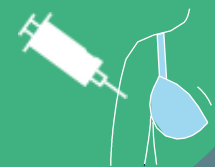
are HER2-positive, which is associated with more aggressive tumors and reduced survival.

685,000

deaths worldwide in 2020 due to breast cancer¹

Global market size expected to growth to **USD 32 billion** by 2026³

1. Breast Cancer Research Foundation (<https://www.bcrf.org/breast-cancer-statistics-and-resources>)
2. Mitri Z et al. The HER2 Receptor in Breast Cancer: Pathophysiology, Clinical Use, and New Advances in Therapy (Chemother Res Pract. 2012; 2012: 743193)
3. Mordor Intelligence, breast cancer therapeutics market, 2021.



Current treatments

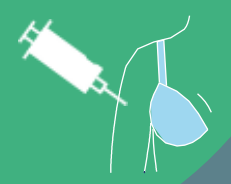
Existing therapies

- Monoclonal antibodies
- Herceptin and Perjeta
- \$11 billion market

Drawbacks with existing therapies

- Resistance to monoclonal antibodies may develop
- Potential for cardiac toxicity
- Repeated administration required: Every 3rd week until remission or resistance develops
- Costs USD 30-50k per year

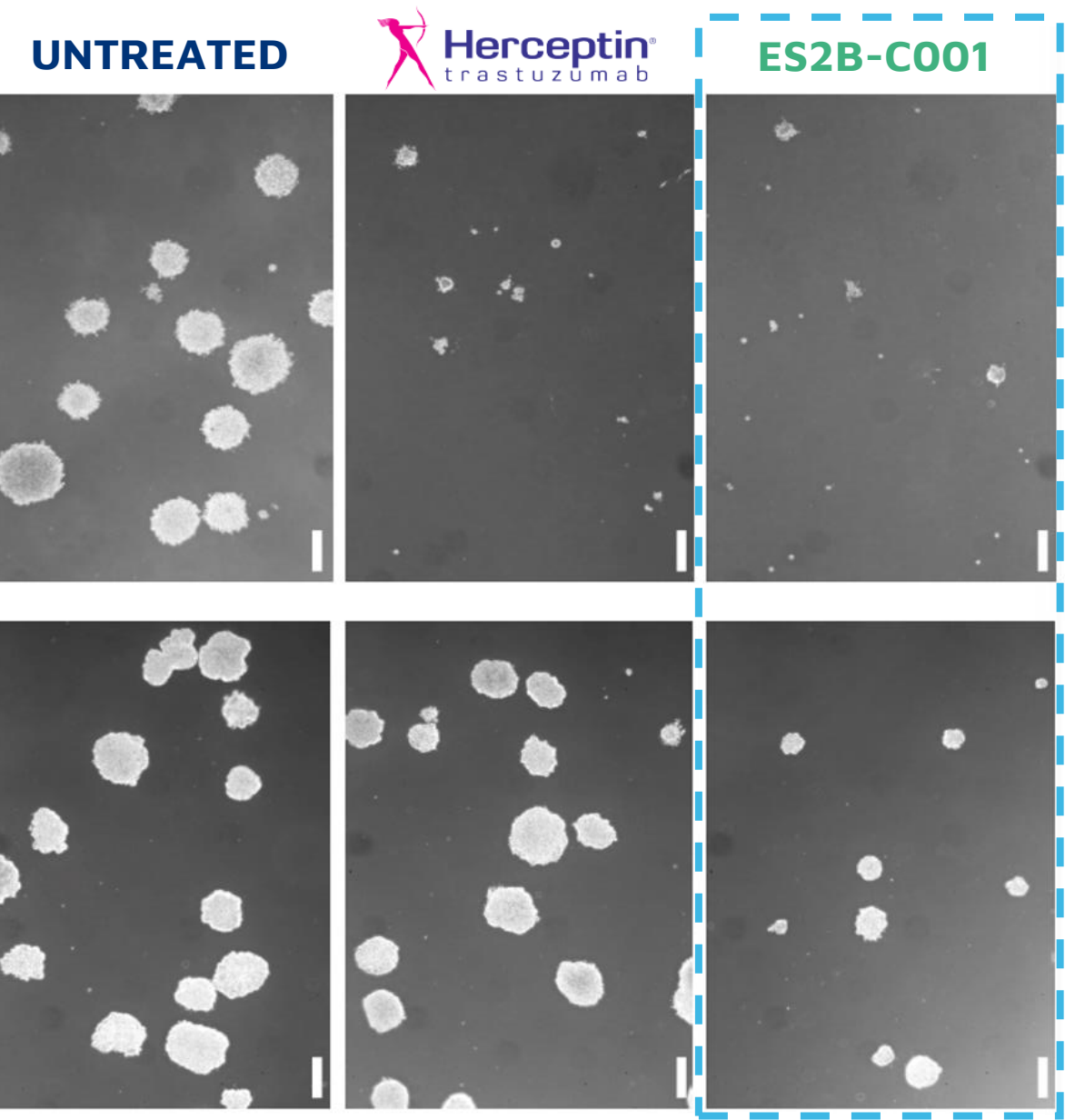
We aim to overcome these drawbacks through internal polyclonal antibody production

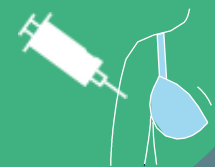


Effective when existing treatment isn't

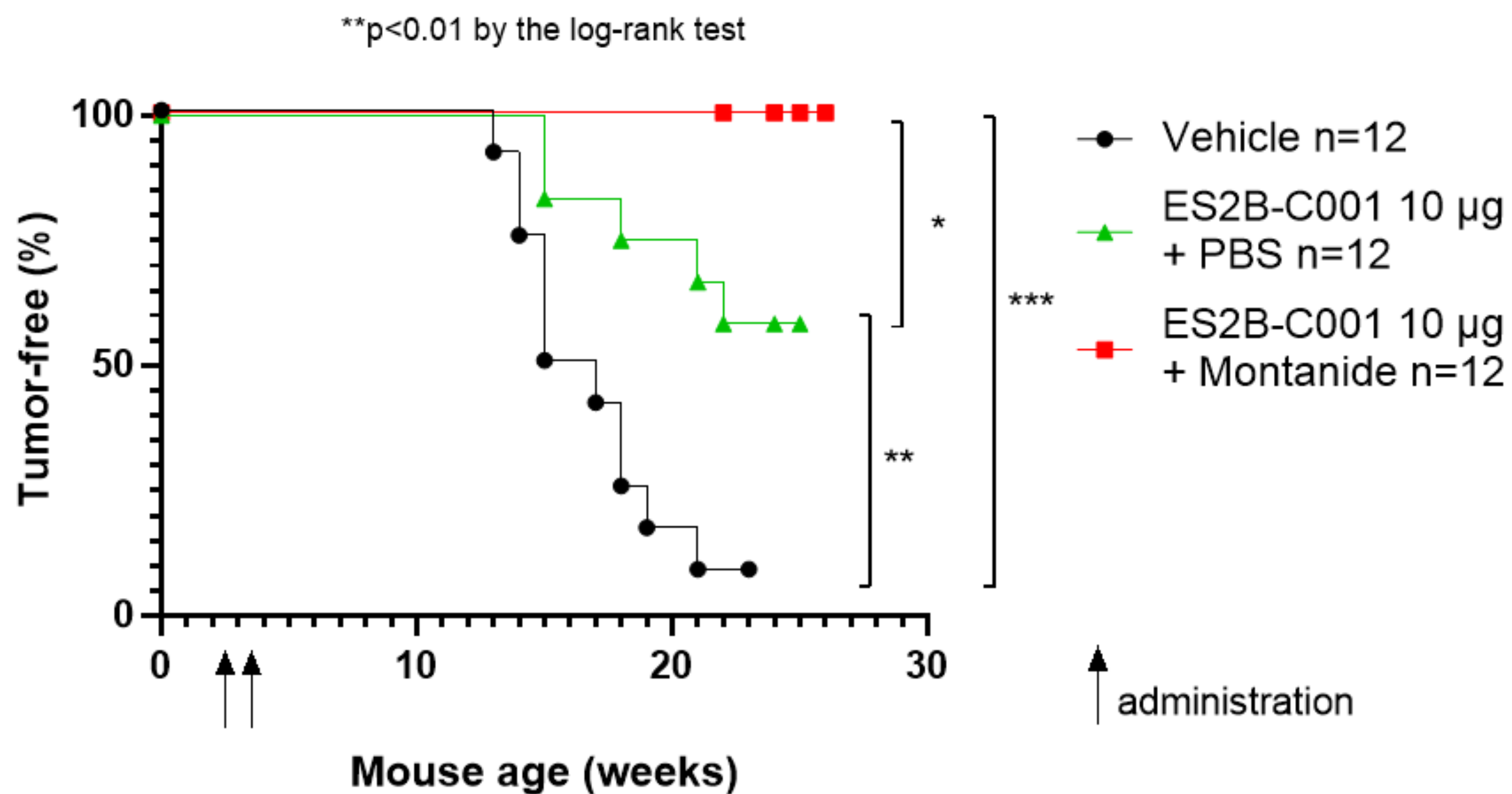
Trastuzumab-sensitive HER2+ human cancer cells¹

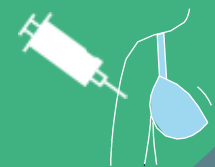
Trastuzumab-resistant HER2+ human cancer cells



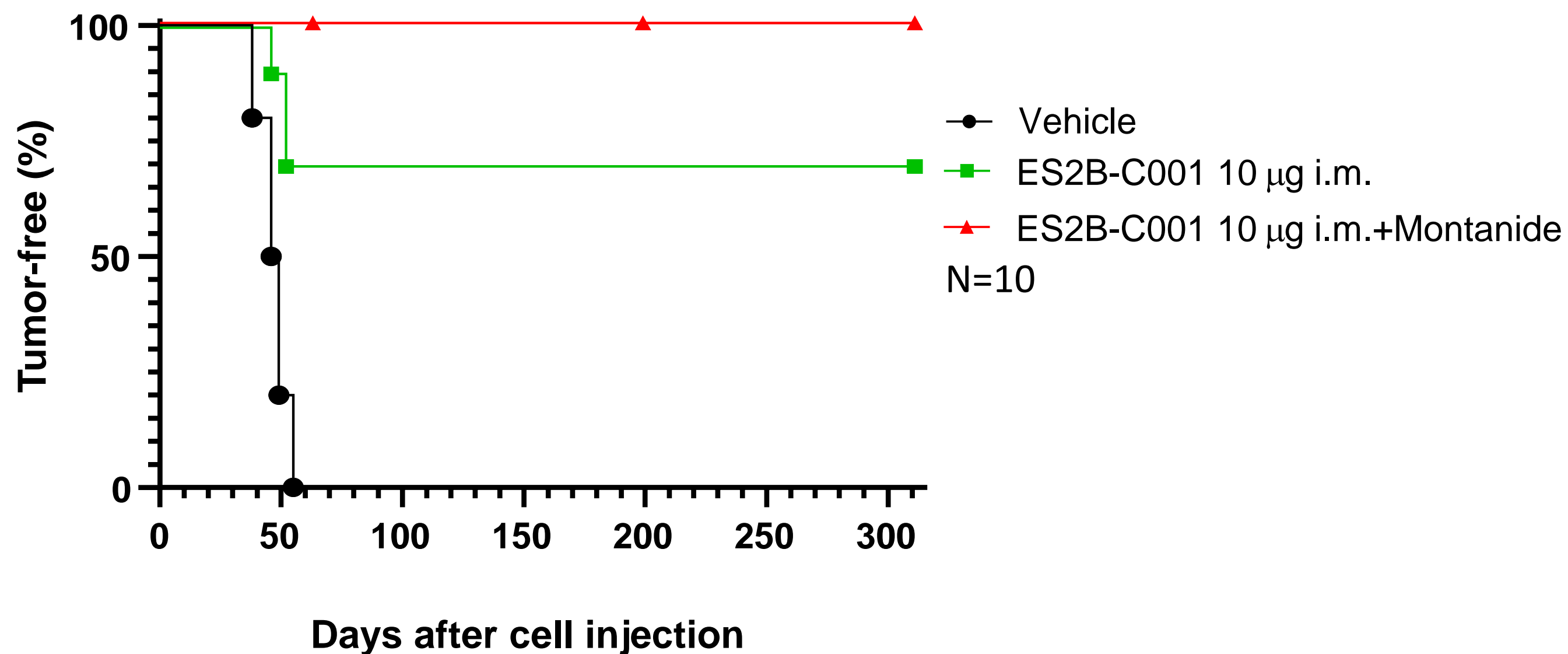


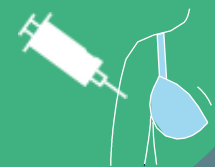
Increased survivability in mice





Inhibits tumor development in mice





Oncology Scientific Advisory Board

Key Opinion Leaders (KOLs) providing clinical advice on our oncology development programme



Dr. Giuseppe Curigliano, MD, PhD

Associate Professor of Medical Oncology at the University of Milano and the Head of the Division of Early Drug Development at the European Institute of Oncology, Italy (IRCCS). Dr. Curigliano is recognized among the leading experts in the world within the field of HER2 expressing breast cancer and has authored or co-authored more than 650 peer-reviewed scientific papers.



Dr. Ulrik Lassen, MD, PhD

Professor at University of Copenhagen, Department of Clinical Medicine. In 2017, he was appointed Head of the Department of Oncology at Copenhagen University Hospital, Rigshospitalet, Denmark. As a Clinical Oncologist he has been working with Phase 1 Oncology trials since 2005 and is ESMO board certified in Medical Oncology. Dr. Lassen has (co-)authored ~300 peer reviewed publications.



Dr. Daniel Lenihan, MD, FACC, FESC, FIC-OS

Dr. Lenihan has been active in cardio-oncology, for over 25 years. He has previously held positions at MD Anderson Cancer Center in Houston, Texas, Vanderbilt University in Nashville, Tennessee, and Washington University in St Louis, Missouri. His current research projects include early phase clinical trials in cardio-oncology, heart failure and amyloidosis. Dr. Lenihan serves as editor on several scientific journals and has authored or co-authored more than 210 peer-reviewed scientific papers.



Dr. Michael Andersson, MD, DMSci

Dr. Andersson is a Clinical Oncologist working as consultant at the Breast Oncology Unit in the Copenhagen University Hospital, Rigshospitalet, Denmark since 1998. He has special interest in HER2-positive breast cancer and has published on and been Principal Investigator in several national and international studies of HER2-positive early and metastatic breast cancer. Dr. Andersson has authored or co-authored more than 140 peer reviewed publications.



Dr. Javier Cortes, MD, PhD



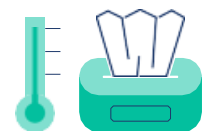


Doctor in Medical Oncology, and Head of the International Breast Cancer Centre (IBCC) in Barcelona. Dr. Cortes He is an active member of the Spanish, European, and American Societies of Medical Oncology (SEOM, ESMO, ASCO), and is a member of expert panels that develop the treatment guidelines for metastatic breast cancer. He is the author of more than 380 publications.



Dr. Rupert Bartsch, MD

Associate Professor of medicine at the Medical University of Vienna in Austria and serves as the director of the Breast Cancer Programme at the Department of Oncology. Dr. Bartsch has a longstanding clinical and scientific focus on breast cancer and brain metastases. Together with his colleagues, he has published over 150 articles in peer-reviewed journals.

Advancing focus pipeline 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 ✓ Phase III secondary readout X Bavarian Nordic: "sees no commercial opportunity"		Phase III milestone related income	
 BREAST CANCER ES2B-C001	✓ Preclinical animal proof-of-concept results H1	✓ Preclinical safety studies initiated	✓ GMP manufacturing processing ✓ Initial readout from preliminary nonclinical tox studies	GLP nonclinical tox study in NHP	Potential filing of clinical trial application	Potential initiation of first human clinical study
 INFLUENZA MUCOVAX			✓ Grant award for the MUCOVAX project for intranasal vaccine	✓ Initiation of MUCOVAX project	Completion of design and production of mucosal delivery platform	Validation of influenza vaccine candidate Optimization of vaccine to maximize efficacy in preventing severe disease and/or infection 
 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

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

Thank you

investor@expres2ionbio.com

