

22<sup>nd</sup> September, 2021

# Proteins for Life

ØU Life Science Investor Conference  
Copenhagen, Denmark  
Bent U. Frandsen, CEO



Økonomisk Ugebrev

EXPRES<sup>2</sup>ION  
BIOTECHNOLOGIES

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# Investment Highlights

Key player in advanced protein sciences with novel pipeline addressing 45B EUR markets



Leader in production of complex proteins with the advantageous Expres<sup>2</sup> technology



Co-Founder of AdaptVac ApS, owner of a unique Virus Like Particle (VLP) technology



Pipeline of therapeutics/vaccines, addressing high-need and attractive markets



Revenue of 15M SEK / ~1.5M EUR with >10% growth from legacy service contract business



NASDAQ First North GM Stockholm [EXPRS2]. >12x increase\* in share price since 01/2020

**Market Cap: >1.4B SEK / >135M EUR**

# Deep Pipeline for Value Creation

## Development Progress

DISEASE	Project/Target	Discovery	Pre-clinical Pharmacology	cGMP / Tox	Phase 1	Phase 2	Phase 3	Market Potential	Partner/Funding
<b>Coronavirus</b>	ABNCoV2/SARS-CoV-2 cVLP				I / II	BN: II		> 30 billion EUR	adapt VAC BAVARIAN NORDIC European Commission PREVENT-nCoV
<b>Breast Cancer</b>	ES2B-C001/HER2 cVLP							> 10 billion EUR	100% ExpreS <sup>2</sup> ion
<b>Influenza</b>	Hemagglutinin							> 4 billion EUR	European Commission INDIGO
<b>Malaria:</b>								> 0.4 billion EUR	
<b>1: Blood-Stage</b>	RH5					Ib / IIa			European Commission MultiVax
<b>2: Blood-Stage</b>	RH5-VLP								wellcome trust THE JENNER INSTITUTE
<b>3: Transmission</b>	Pfs 48/45								European Commission OptimalVax
<b>4: Placenta-Borne</b>	VAR2CSA			Ia / Ib					UNIVERSITY OF COPENHAGEN UNIVERSITÄT TÜBINGEN
<b>5: Blood-Stage</b>	CYRPA complex								Walter+Eliza Hall Institute of Medical Research DISCOVERIES FOR HUMANITY

AdaptVac is a joint venture between ExpreS<sup>2</sup>ion (34% owned) and NextGen Vaccines (66% owned)

# Management Team

Expanded team in 2021 brings skills to build our pipeline-focused business



**Bent U. Frandsen, CEO**

- MSc. In Finance/Strategic Management, Copenhagen Business School, Denmark
- Born 1967, Danish citizen
- >25 years industry finance, business dev and management experience



**Dr. Mette Thorn, VP Preclinical Development**

Started in 2021

- PhD in Immunology, and a MSc in Chem Eng., Tech. Univ of Denmark
- Born 1972, Danish citizen
- 20 years industrial research experience



**Keith Alexander, CFO**

- MBA, The Wharton School and the University of Pennsylvania, USA
- Born 1975, American citizen with Danish permanent residence
- >20 years of equity research, corporate strategy, asset management and consulting experience



**Prof. Lars Petersen, Medical Dir., Oncology**

Started in 2021

- MD, DMSc in immuno-pharmacology, from Univ of Copenhagen, and CBA from AVT Business School
- Born 1960, Danish citizen
- >30 years academic and clinical development experience



**Max Soegaard, VP of R&D and Technology**

- PhD in Biochem., UCL, UK, and MSc in Molecular Biology; AU, Denmark
- Born 1970, Danish citizen
- 20 years academic and industrial research experience



**Eske Rygaard-Hjalsted, VP Business Dev.**

Started in 2021

- MSc in Molecular Biology from Technical Univ. of Denmark (DTU)
- Born 1965, Danish citizen
- > 25 years across business dev, sales and marketing in life sciences



# Board of Directors

Expanded the Board in 2021 in support of the transition to a pipeline-focused business



**Dr. Martin Roland Jensen**, Chairman

Re-elected

- PhD. in Molecular and Cell Biology, Univ. of Copenhagen, Denmark
- Born 1960, Danish citizen
- >35 years biotech industry management and co-founder experience, incl. scientific work in immunology and cancer vaccine development



**Dr. Allan Rosetzsky**, Board Member

Re-elected

- Doctor of Medicine (MD), from University of Copenhagen, Denmark
- Born 1948, Danish citizen
- >40 years of healthcare and biopharma experience, including founding, running, and successfully selling the clinical CRO KLIFO



**Jakob Knudsen**, Board Member

Re-elected

- Law Degree from Univ. of Copenhagen, and MBA, Imperial College, UK
- Born 1968, Danish citizen
- >25 years commercial experience from international biotech industry



**Dr. Karin Garre**, Board Member

Elected in 2021

- MD, from University of Copenhagen, Denmark
- Born 1957, Danish citizen
- >25 years bio-industry management and drug development experience from early to late-stage phases and registration



**Sara Sande**, Board Member

Elected in 2021

- MSc in Economics, from University of Copenhagen, Denmark
- Born 1975, Danish citizen
- 20 years leadership experience in high-tech B2B companies, incl. sales excellence, strategy and commercial development

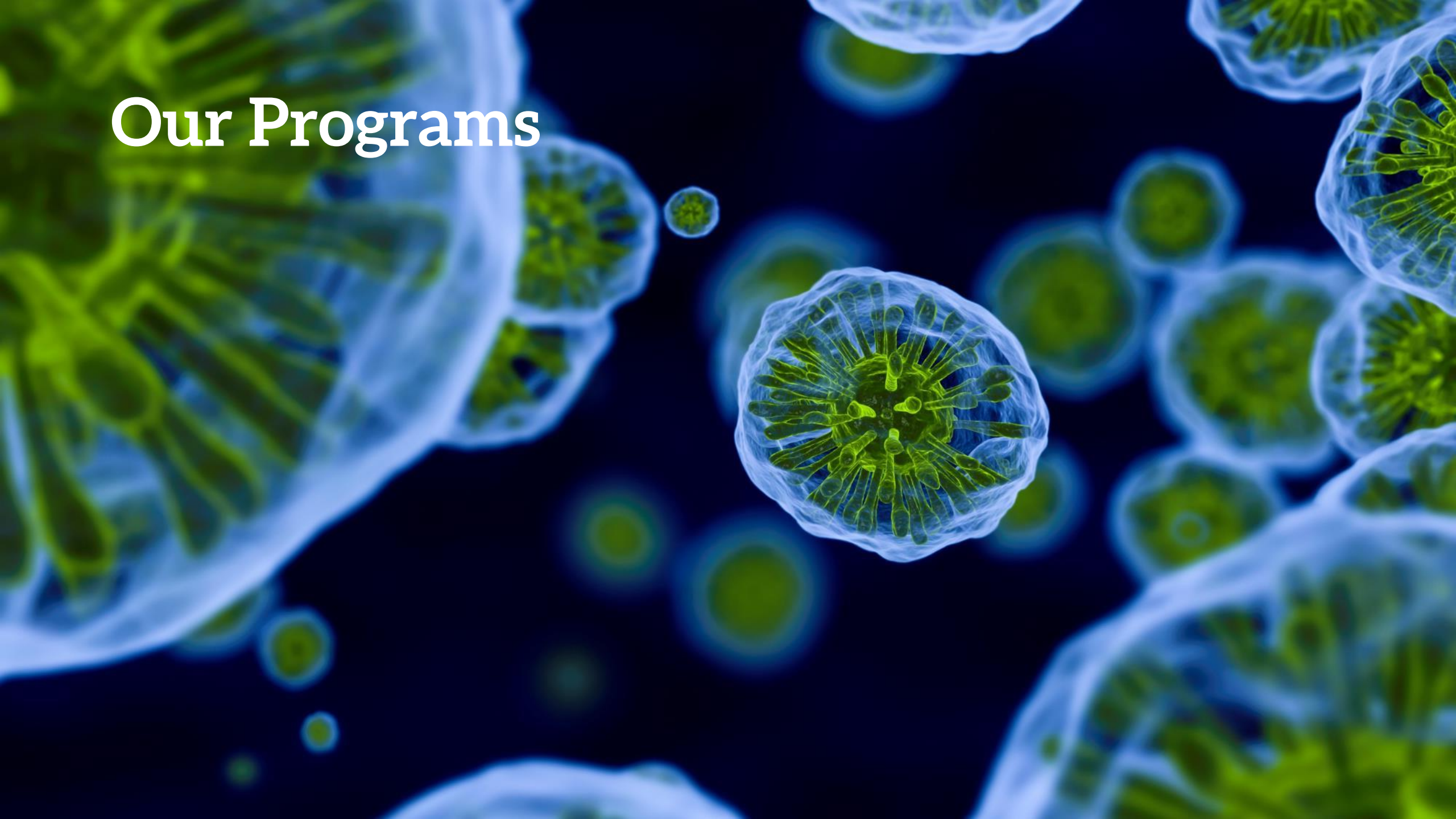


## Board update and expansion at AGM May 2021

- Combined more than 140 years of deep professional experience that supports ExpreS<sup>2</sup>ion's vision of leadership in the infectious diseases and cancer fields



# Our Programs





# The Most Common Cancer

**1 in 8**

women will be diagnosed with  
invasive breast cancer in her  
lifetime

**~25%**

have overexpression of HER2  
receptors, associated with  
more aggressive tumors and  
reduced survival<sup>2</sup>

**685,000**

deaths worldwide in 2020  
due to breast cancer<sup>1</sup>

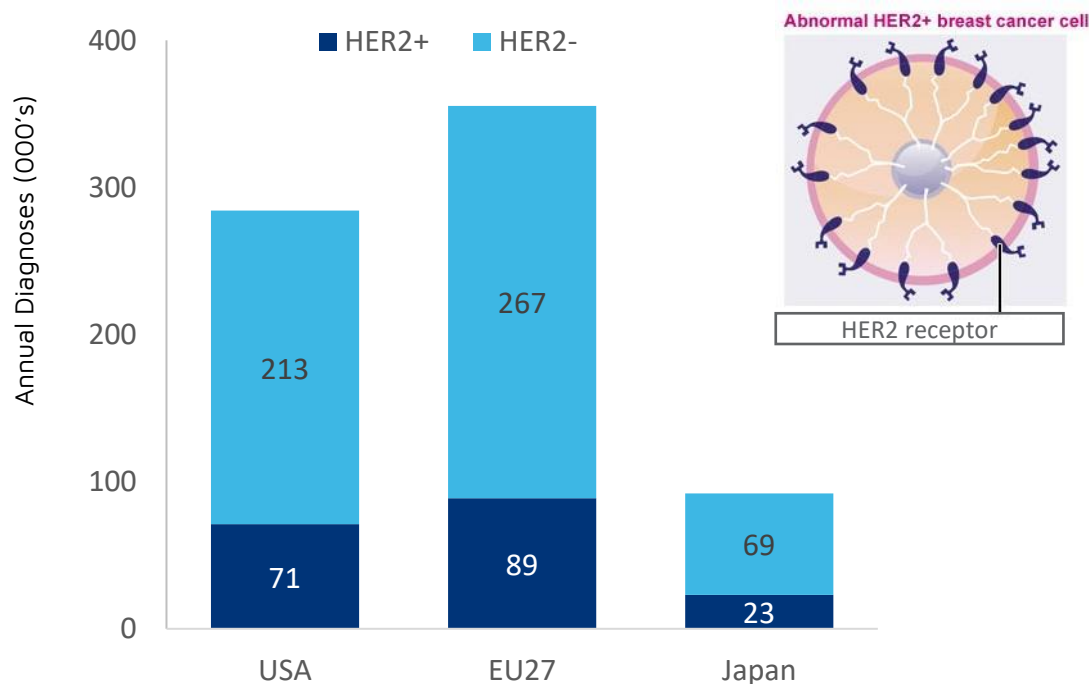




# HER2+ Breast Cancer Overview

The ES2B-C001 vaccine can offer significant benefits compared to current treatment options

**Over 180,000 people diagnosed with HER2+ breast cancer per year across US, EU, & Japan<sup>1,2</sup>**



**Monoclonal antibodies are the cornerstone of treatment for HER2+ breast cancer (>\$7B USD sales)**

- Target the HER2 receptor on tumor cells to reduce proliferation and induce tumor cell destruction



**However, serious drawbacks exist with these therapies**

- Resistance** to monoclonal antibodies may develop
- Potential for cardiac toxicity**
- Repeated administration required**: 28 day half-life requires administration every 3<sup>rd</sup> week until remission or resistance develops, costs \$30-\$50k USD

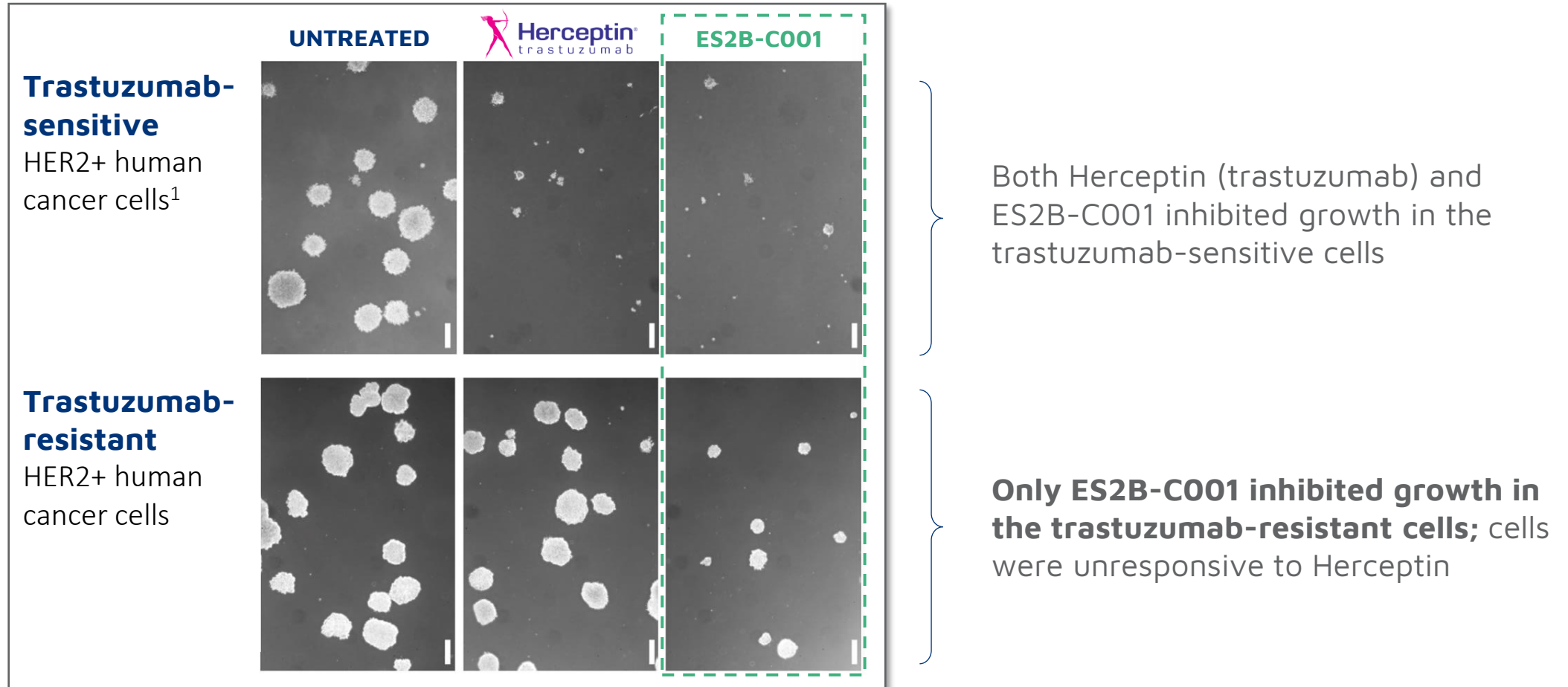
**Vaccine-like approach offers potential to overcome drawbacks through *internal antibody production***

1. US: BreastCancer.org: [https://www.breastcancer.org/symptoms/understand\\_bc/statistics](https://www.breastcancer.org/symptoms/understand_bc/statistics); EU27: Information System (Oct 2020) ([https://ecis.jrc.ec.europa.eu/pdf/Breast\\_cancer\\_factsheet-Oct\\_2020.pdf](https://ecis.jrc.ec.europa.eu/pdf/Breast_cancer_factsheet-Oct_2020.pdf)); Japan: <https://gco.iarc.fr/today/data/factsheets/populations/392-japan-fact-sheets.pdf>.  
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



# ES2B-C001 overcomes Herceptin resistance

The soft agar human cancer cell growth inhibition assay provides *in vitro* evidence







# Strong Preclinical Data for VLP Approach

ES2B-C001 has demonstrated animal proof-of-concept, and on track to repeat *in vivo* PoC

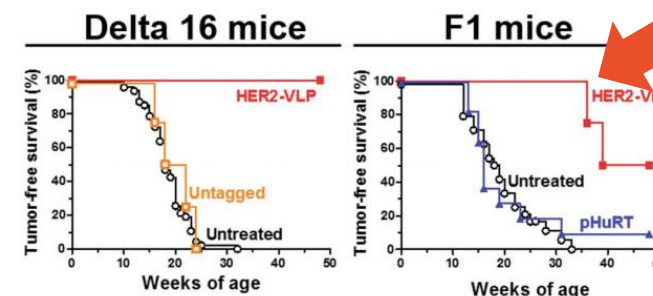
- **Prevention of 50-100%** of spontaneous mammary carcinogenesis
- **Strong tumor growth inhibition** in therapeutic studies (mice transplanted with tumor cells/fragments)

**Preclinical *in vivo* studies are underway in collaboration with University of Bologna; proof-of-concept data expected primo 2022.**

**On path for clinical trial application submission before end of 2022.**

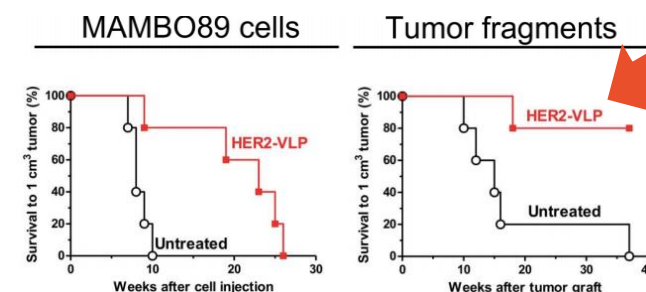
## Preventive studies

*(mice with pre-disposition to spontaneous development of HER2+ tumors)*



## Therapeutic studies

*(mice transplanted with HER2+ tumor cells or larger tumor fragments prior to vaccination)*



*Note that this data was generated for AdaptVac's predecessor vaccine candidate (HER2-VLP very similar to ES2B-C001)*

*Palladini, A. et al. (2018), "Virus-like particle display of HER2 induces potent anti-cancer responses", Oncolmmunology, pub. Vol 7, no 3*

*\*Delta16 and F1 are naturally-occurring human HER2 subtypes (isoforms) that cause rapidly-growing tumors in mice and are well accepted as mouse models for HER2+ breast cancer*

# Influenza & Malaria



## Influenza Vaccine

>4 billion EUR

### The INDIGO consortium

- Led by University of Amsterdam
- Multiple research groups, incl. ExpreS<sup>2</sup>ion
- Funded by a 10 MEUR 2020 Horizon grant from the EU (0.6 MEUR awarded to ExpreS<sup>2</sup>ion)



### Technologies

- Use of ExpreS<sup>2</sup> platform for antigen production
- Goal of >90% responder rate (vs <40% with current vaccines)

### Vaccine design completed - Lead candidate selection

- Progression towards preclinical activities – affected by the COVID-19 pandemic

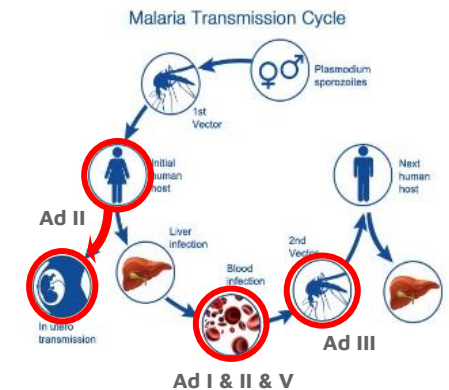


## Malaria Vaccine

>0.4 billion EUR

### 5 vaccines candidates under development that target various stages of disease & transmission

Stage/Target	Partners
I. Blood stage (RH5.1)	
II. Blood stage (RH5.2)	
III. Transmission (Pfs48/45)	
IV. Placenta borne (VAR2CSA)	
V. Blood-stage (PfPrp)	



### Ad I) 2021 news on RH5.1

- 04.21: Publication of Phase I/IIa data from the VAC063 study
- 07.21: The VAC080 study, a Phase Ib trial, is initiated in 60 healthy adults and infants in Tanzania to assess safety and immunogenicity





# The 2<sup>nd</sup> Generation COVID-19 Vaccine

With **over 4.6 million deaths worldwide**, significant needs remain in the global long-term fight against the SARS-CoV-2 virus:



Uncertain duration of effect with current vaccines, expected to need repeated boosters



Storage and handling requirements for many vaccines create logistical constraints

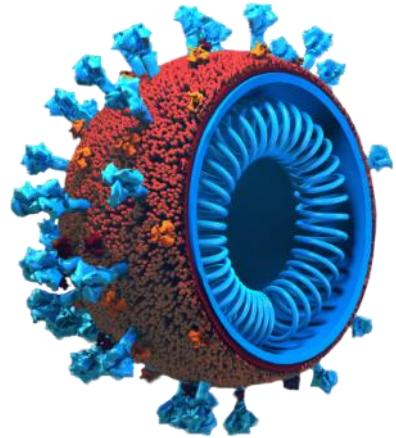


Potential mutated variants may require rapid development of new vaccines



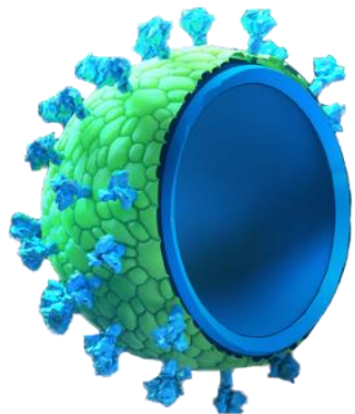
# The Best COVID-19 Vaccine

ABNCoV2 has demonstrated superior preclinical proof-of-concept, and now promising human data



## Virus

*Spike proteins on surface of the coronavirus are primary target for vaccine development*



## Capsid VLP

*Spike proteins displayed on surface but contains no genetic material*

## Encouraging early findings:

- Durable immune response with single shot
- Strong immunogenicity vs. variants
- Well suited to rapid iteration for mutated variants if needed
- Stability at room temperature\*

## Phase I/II Study headline results:

- 45 humans dosed (6-70µg)
- Aug. '21: Safe and well tolerated
- High levels of neutralizing antibodies, also for Delta/Beta VoCs

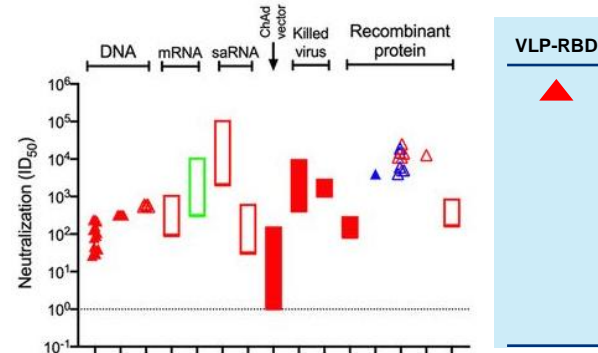
*See data next slide*

**Bavarian Nordic holds the exclusive global license to ABNCoV2; sponsor of the on-going commercialisation**



- **Phase II readout within 2021**
- **Phase III initiation in 2022 with market launch estimated 2022/-23**

## VLP elicits strong neutralizing antibody response vs other technologies<sup>1</sup>



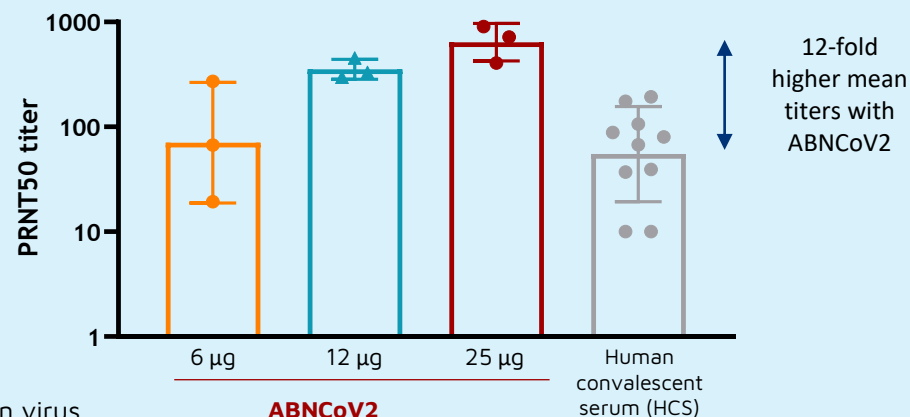




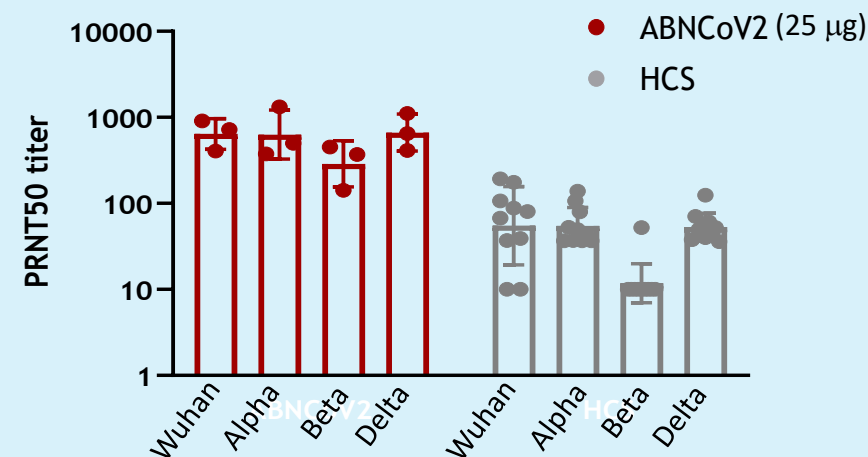
# ABNCoV2: Positive Phase I/II Outcomes

Exceptional safety & tolerability, as well as high neutralizing effect against variants

**ABNCoV2 induces high neutralization titers vs recovered COVID-19 patients (HCS)**



**ABNCoV2 also induces higher neutralization against variants vs recovered COVID-19 patients (HCS)**



**Results support initiation of 210-subject Phase II booster study (results Q4 2021) and parallel ramp-up for Phase III in early 2022**  
*(with up to DKK 800 million funding by Danish Ministry of Health)*



# COVID-19 License and JV Economics

ABNCoV2 is already out-licensed with near-term revenue streams supporting ExpreS<sup>2</sup>ion

## AdaptVac's Economics

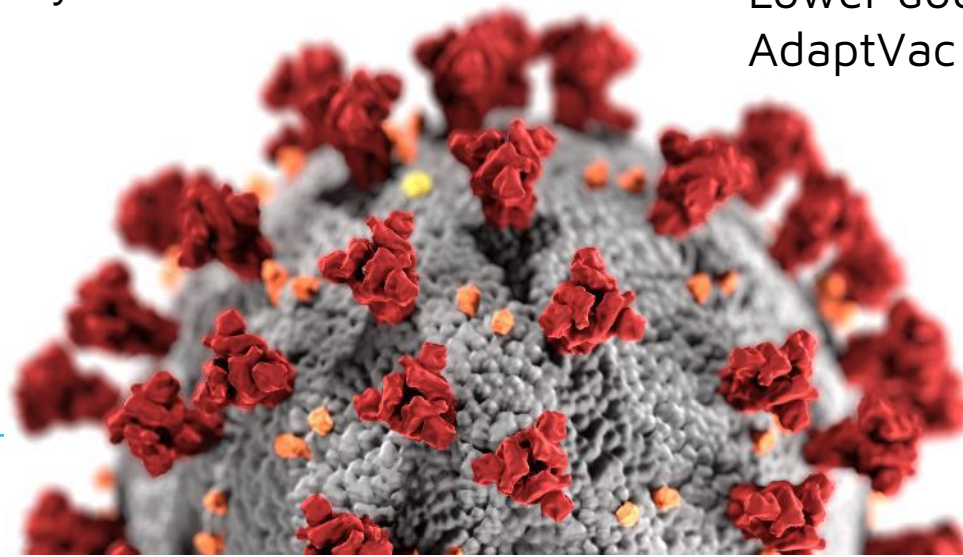
*Paid by Bavarian Nordic*

- 4 MEUR upfront (paid in July 2020)
- Up to 136 MEUR in development and sales milestones
- Single- to double-digit-% royalties of Bavarian revenues

## ExpreS<sup>2</sup>ion's Economics

*Paid by AdaptVac*

- **34% ownership of AdaptVac**
- Up to 2 MEUR in commercial milestone payments
- Lower double-digit percentage of AdaptVac royalties





# COVID-19 Value to ExpreS<sup>2</sup>ion

Institutional analysts have higher sales and approval assumptions

## Estimated COVID-19 + AdaptVac value<sup>1</sup>



**Pareto**  
Securities

Pareto: SEK 68 target

COVID-19 + AdaptVac value: **SEK 1,322 mn** (60.9% of company valuation)

**Institutional**

**Blend**

## Estimated COVID-19 + AdaptVac value<sup>1</sup>

**Nordea**

SEK 1,942 mn

**Danske Bank**

SEK 2,610 mn

**Carnegie**

SEK 2,596 mn



Analysguiden: SEK 55 target

COVID-19 + AdaptVac value: **SEK 1,183 mn** (64.4%)

**Retail**



# Financials & Corporate Outlook



# Exercise of Warrant Programme T05

Window open during September 6-20 – Strike price determined to be 25 SEK / share

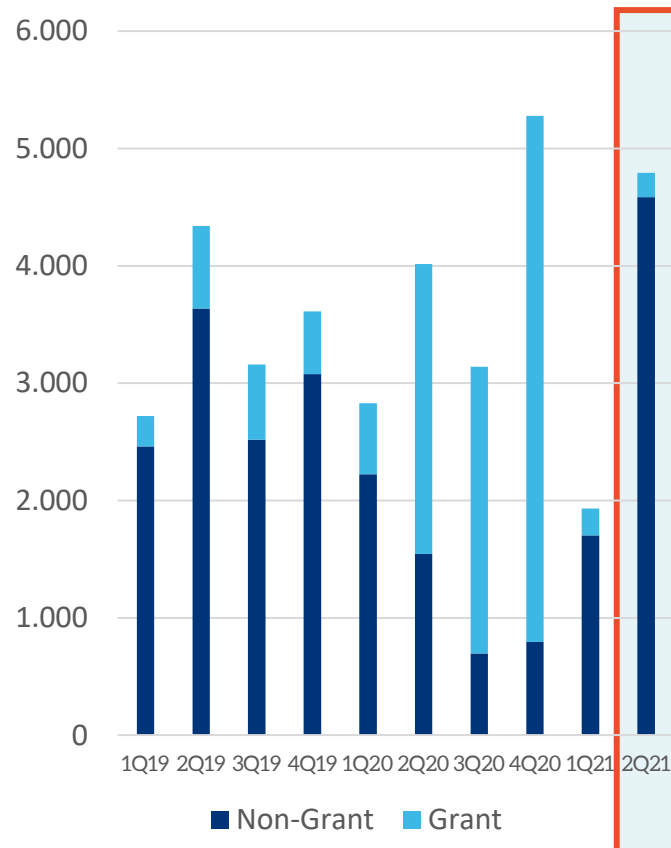
- 5.5 million T05 warrants, part of the October 2020 successfully oversubscribed rights issue
- Exercise window September 6-20, 2021
- Strike price equal to 70% of VWAP during 10 trading days prior to exercise window
- Strike price must be within window of SEK 6-25 per share – **determined to be 25 SEK**
- 3 warrants equal 1 share
- Potential SEK 45 million cash inflow in gross proceeds

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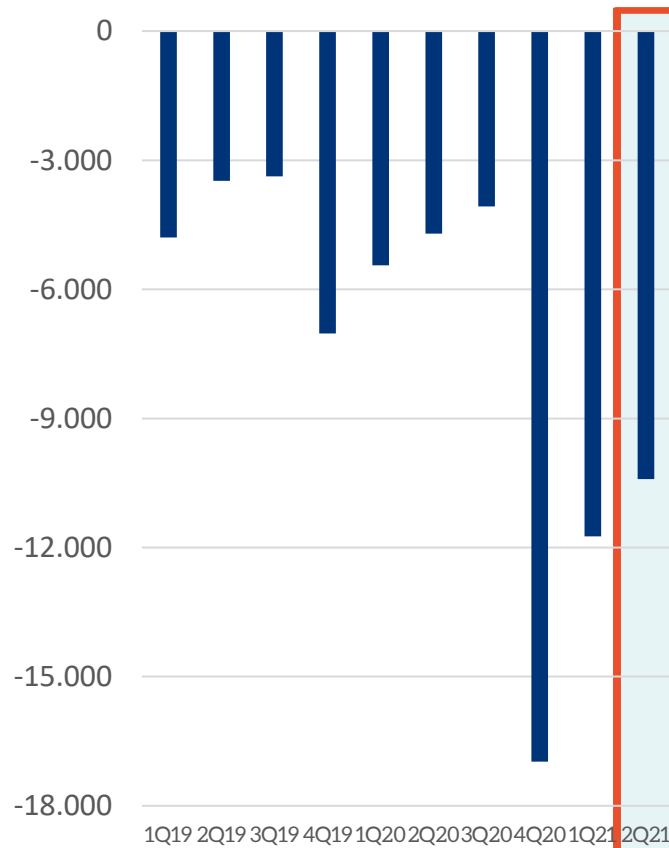


# 2Q21 - Key Financial Developments

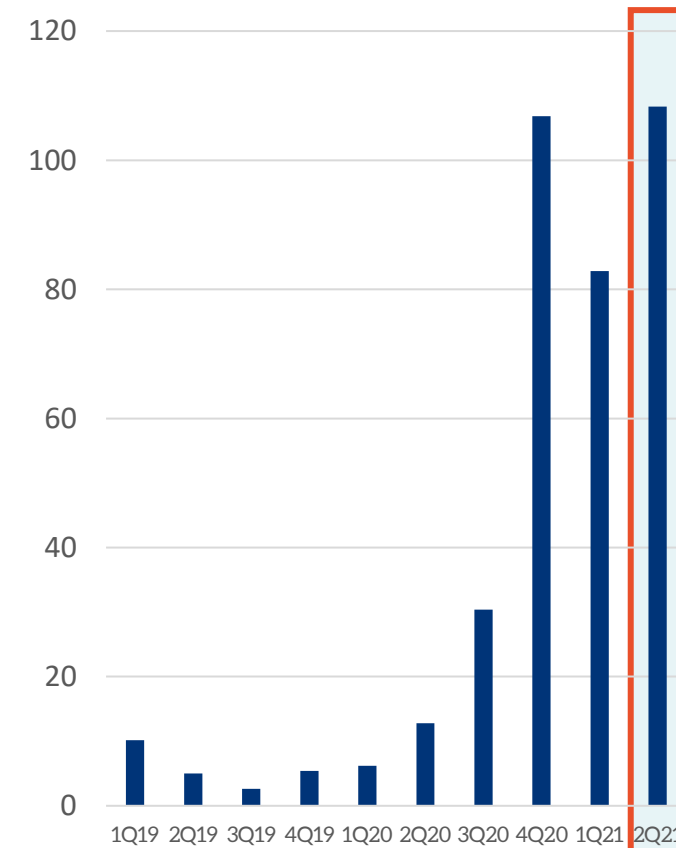
Operating income, SEK '000s



Operating profit (loss), SEK '000s







Cash, SEK millions – excluding T05 proceeds





# 2021 – 2023 Outlook

On track to deliver shareholder value

	2021	2022	2023
 <b>CORONAVIRUS (ABNCoV2)</b>	<ul style="list-style-type: none"> <li>✓ Phase I/II trial, COUGH-1 initiated</li> <li>✓ COUGH-1 initial safety results (Q2)</li> <li>✓ <b>COUGH-1 full safety &amp; efficacy results (Q3)</b></li> <li>✓ BN Phase II trial initiation (Q3)</li> </ul>	<ul style="list-style-type: none"> <li><b>BN Phase II trial readout</b></li> <li><b>BN Phase III trial initiation</b></li> <li><b>BN Phase III initial readout</b></li> </ul>	<ul style="list-style-type: none"> <li><b>BN ready for market launch</b> (subject to regulatory approval)</li> </ul>
 <b>BREAST CANCER (ES2B-C001)</b>	<ul style="list-style-type: none"> <li>✓ Executed in-licensing (Feb 2021)</li> <li>✓ Preclinical animal studies initiated (Q2)</li> </ul>	<ul style="list-style-type: none"> <li><b>Preclinical animal proof-of-concept results</b></li> <li>GMP manufacturing batch &amp; tox</li> <li>Filing of clinical trial application</li> </ul>	<ul style="list-style-type: none"> <li>Initiation of first human clinical trial</li> <li><b>Outlicensing window opens pending human data</b></li> </ul>
 <b>INFLUENZA</b>	<ul style="list-style-type: none"> <li>Within INDIGO progress in preclinical animal studies in (H2)</li> </ul>	<ul style="list-style-type: none"> <li>Advance/support further development of one or more candidates in 2021</li> </ul>	
 <b>MALARIA</b>	<ul style="list-style-type: none"> <li>✓ Phase IIa results from the Rh5.1 vaccine published in 2021</li> </ul>	<ul style="list-style-type: none"> <li>✓ Additional phase I trial in a malaria endemic region in Africa launched during 2021, with alternative adjuvant</li> </ul>	<ul style="list-style-type: none"> <li>Rh5 phase I trial readout</li> </ul>

A person is shown from the side, wearing a magnifying glass over a piece of paper. The paper has a drawing of three viruses, each with a face and spikes. The person is holding a blue pen and appears to be drawing or coloring one of the viruses. The background is a wooden surface.

Thank you!

Contact:  
[info@expreS2ionbio.com](mailto:info@expreS2ionbio.com)

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