

Enrolling in phase 1

Swift action by Austrian regulator

The Austrian regulator BASG reacted swiftly to ExpreS2ion Biotechnologies' request for amending its protocol in the phase 1 trial with ES2B-C001, an immunotherapy for treating HER2 positive breast cancer. The request was filed with the BASG on May 13 and on June 30 ExpreS2ion communicated a positive response.

The first part of the study includes nine patients, which will be evaluated at three different dose levels during a 12-week period, followed by a six-week observation period. So far, two patients are enrolled and a third is being screened for inclusion.

Interim analysis expected by mid-2026

The second part of the study involves an expansion phase at the maximal tolerated dose. The primary study endpoint consists of potential toxicity reactions with a preliminary result expected by mid-2026. By then we anticipate that the safety profile can be established, possibly together with an interim analysis of immune or tumor response to ES2B-C001.

The study will include a total of up to 27 participants with HER2-expressing breast cancer. As in most phase 1 oncology trials, there is no placebo control included. Management expects to conclude the studie within 18 months period, which would imply full recruitment by July-August next year.

Immunotherapy boost for treating breast cancer

ES2B-C001 has the potential to reinforce the patient's immune response in breast cancer, in combination with standard-of-care, such as antibodies to HER2 or conjugates of antibody and cytotoxic drugs.

Management anticipates that ES2B-C001 will elicit a broader, polyclonal immune response, compared to the monoclonal response of standard-of-care. The market for the treatment of HER2 expressing breast cancer is estimated to reach USD 13bn in a five-year period, with further scope for expansion if an immunotherapy is approved.

Cash-burn lower than expected in Q2

ExpreS2ion's cash position by the end of Q2 was SEK 48m. Cash burn in the quarter was SEK 9m, half of what we predicted. Including subscription to TO11 in September-October, we expect the company to have a cash runway into Q2 next year. Fair value, given our conservative base scenario, is reiterated at SEK 75.

ExpreS2ion Biotech

Date	27 augusti 2025
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Industry	Vaccine Development
Chairman of the Board	Martin Roland Jensen
CEO	Bent U. Frandsen
Year of Listing	2016
Stock List	First North Growth Market
Ticker	EXPRS2
Share price, SEK	22
No. of shares, mln.	2,66
Market cap, SEKm	58
Cash, SEKm	48
Fair value, SEK	75
Web site	www.expres2ionbio.com

Kursutveckling senaste året



Source: Refinitiv

Forecasts & Key ratios, SEKm

	2024	2025p	2026p	2027p
Revenues, risk-adjust.	8	11	10	259
Operating expenses	-74	65	80	55
EBIT	-68	-55	-72	202
Earnings per share	-21 kr	-21 kr	-27 kr	76 kr
Revenue growth	-11%	40%	-11%	2488%
Cash by year-end	81	30	21	228
New share issues	42	11	70	0

Source: Company, Analysguiden forecasts

Austrian protocol amended

On June 30, the Austrian regulatory authority approved the Company's protocol amendment to evaluate ES2B-C001 in combination with HER2-targeted antibody-drug conjugates (ADCs), such as Enhertu, and to expand the number of trial sites. The new protocol will expand the potential recruitment base, which is eligible for participating in the study. Initially, the protocol only allowed for patients on standard-of-care with the monoclonal antibodies trastuzumab and pertuzumab.

Patients in the study suffer from HER2 positive breast cancer, with metastatic or locally advanced, unresectable disease. All participants are under HER2 maintenance therapy.

Enhertu transforming the HER2 landscape

The protocol change in the study is provoked by the rapid adoption of Enhertu, a new treatment for metastatic HER2 positive breast cancer, rapidly overtaking the position as standard-of-care in this patient setting.

Enhertu is an Antibody-Drug Conjugate made up of the generic antibody trastuzumab and the cytotoxic drug deruxtecan. Enhertu had sales of USD 3.7bn in 2024 and is expected to reach sales of USD 10bn by 2028, pointing to the huge commercial potential in this patient setting.

To speed up patient enrolment in the study, new referral pathways have been established through agreements with five cancer clinics in Vienna, referring eligible patients to the treatment site at the Medical University of Vienna.

Interim safety results by mid-26

Management expects an interim analysis to be published fifty weeks after the starting dose of the first patient. The endpoints to be included in the analysis remain to be decided. Since the first dose was administered on June 24, this would place an interim analysis in the first part of June next year. The primary endpoint in any phase 1, first-in-human study is always safety and tolerability. Secondary endpoints are made up of efficacy data, such as immunogenicity (the patients' immune response) and tumor responses.

The number of participants included in the interim analysis has not been disclosed, but as a general rule, around half of participants should be included in a preliminary efficacy evaluation. If the interim analysis deals with the primary endpoint (safety and toxicity), fewer patients should be needed for a conclusion.

Before the interim analysis by mid-2026, we expect the Data and Safety Monitoring Board (DSMB) to approve progression of the study to the expansion phase, possibly in Q2 next year. This decision will be based on an evaluation of the safety data collected in the first nine patients.

The treatment duration for every participant will extend over a 12-week period (five intramuscular injections) followed by an

observation period and a final visit eighteen weeks after the administration of the first dose. In order to conclude the first part of the study, involving nine patients at three different doses, we assume that the ninth patient will have to start treatment in October-November, which implies a faster recruitment pace than seen so far. In June-August the pace appears to have been one patient per month. This scenario assumes that no severe adverse events occur.

In the second part of the study, up to 18 new participants will be recruited. Depending on toxicity observations in the first three cohorts, the expansion phase will be conducted at one of the tested doses, either 50 µg, 150 µg or 450 µg per injection, including adjuvant. A possible reason for making use of a high dose, together with an adjuvant, is that HER2 is a self-protein, that is a protein prevalent in the body which the immune system has learned not to react with (self-tolerance).

The vaccine candidate ES2B-C001 is a conjugate of the full extracellular amino acid sequence of the human HER2 receptor protein, based on ExpreS2ion's knowledge in protein expression, mounted on a virus-like particle (VLP), based on AdaptVac's nano technology.

Total study duration of 18 month

Initially all patients will receive ES2B-C001 adjuvanted by Montanide. In case this will lead to a negative reaction at the injection site, it will be possible to receive unadjuvanted ES2B-C001.

If one of the three patients in a dosing cohort experiences a dose-limiting toxicity (DLT), three additional patients are added to the same dose level cohort. If 2 or more patients among these 6 patients experience DLTs, no further dose escalation can occur, and lower dose levels can be further explored. Dose escalation will continue until not more than 1 out of 6 patients experience DLT in a dose level cohort or the highest dose level group has completed treatment or no trial stopping criterion has been met.

The estimated duration of the whole study is approximately eighteen month, corresponding to final data in December next year. Last patient would then have to be included in July-August, which assumes a substantial pick-up in the recruitment pace in 2026. We believe it may be possible to conform with this optimistic timeline by starting the expansion phase of the study before the release of the interim data.

AdaptVac receives new grants

AdaptVac, in which ExpreS2ion has a 34 percent equity interest, announced in July a grant by the Global Health Innovative Technology (GHIT) Fund. The project will be supported by EUR 4.6 million in a research effort to find and develop a new blood-stage malaria vaccine candidate using the virus-like particle (VLP) platform of AdaptVac ApS.

The GHIT Fund is a Japan-based international public-private partnership (PPP) fund that was formed between the Government of

Japan, multiple pharmaceutical companies, the Gates Foundation, Wellcome Trust, and the United Nations Development Programme (UNDP).

In June AdaptVac also announced that it will lead the development of a new vaccine that could protect against multiple deadly viruses, including Ebolavirus Zaire, Sudan Ebolavirus and Marburg. These viruses cause frequent outbreaks in Africa with fatality rates of up to 90 percent.

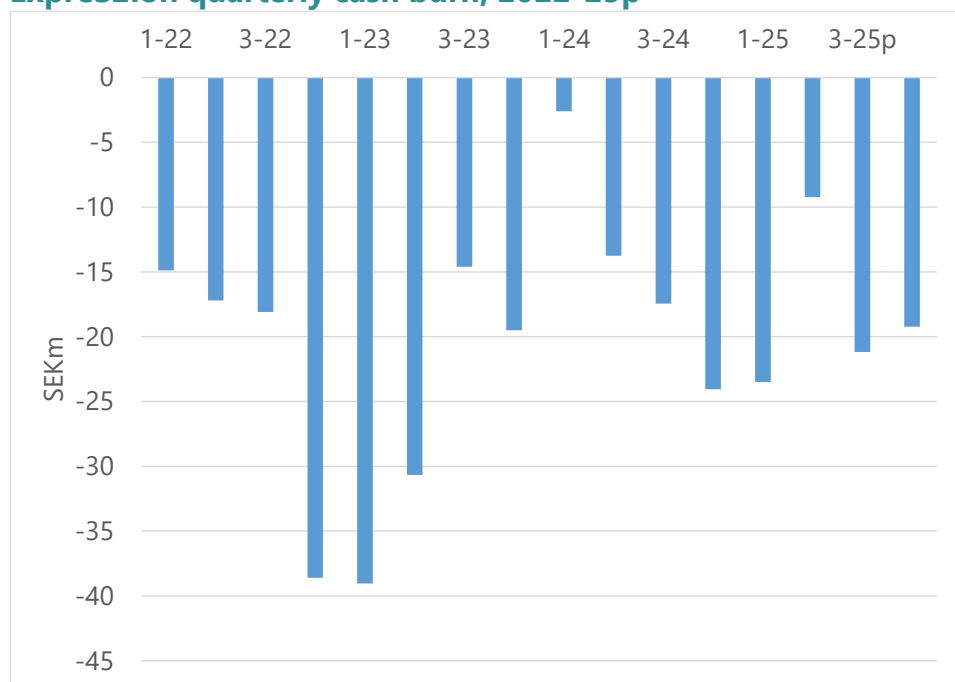
The program is backed by a \$12.4 million grant from CEPI and the European Union's Horizon Europe programme. The consortium led by AdaptVac aims to design and evaluate a new vaccine that could offer broad protection against several filoviruses.

Financial discussion and valuation

Management delivered on its promise in the Q1 presentation to a lower cash burn in the coming quarters. In Q2 cash burn took a nosedive to SEK 9m compared to SEK 23m in Q1. As enrolment in the phase 1 study accelerates in the second half of the year, we do not expect cash burn to stay at the level of Q2.

The cash position by the end of Q2 at SEK 48m is expected to take the company through Q1 next year and with the addition of TO11, which runs will be subscribed in September-October, the runway should extend well into Q2 next year.

ExpreS2ion quarterly cash burn, 2022-25p



Source: ExpreS2ion Biotechnologies, Analysguiden forecasts

We conclude that tight cost control will allow management to push a new share issue into next year, optimally after the mid-2026 interim analysis. This should allow the company to refinance at a substantially better level than in 2024. After these transactions, we expect the company to have issued 6,4 mln shares by the end of 2026. Our base scenario is a licensing deal or trade sale in 2027. However, depending on the strength of the phase 1 data, management would like to take development of ES2B-C001 into phase 2 by themselves.

Potential licensing deal after phase 1 data

Our main scenario is that ExpreS2ion may strike a licensing deal for ES2B-C001 in 2027, assuming a positive data roll-out in late 2026 or early 2027. We have conservatively assumed a deal worth EUR 500m with an upfront payment of EUR 35m. We have assigned a 55 percent likelihood of this scenario.

In consequence, we have included a SEK 250m income in 2027 forecasts. It may be argued that an innovative program such as ES2B-C001, considering that there are no therapeutical breast cancer

vaccines approved to date, may merit a more profitable deal. Licensing deals on HER2 expressing breast cancer have in some cases been multi-billion deals. In order to reach such a strong deal, it may be necessary to proceed into proof-of-concept phase 2. If assuming a phase 2 financing in 2027, it would be possible for ExpreS2ion to pursue in-house development and aim for a more lucrative end of phase 2 licensing deal.

If ExpreS2ion or its partner can document both therapeutical and preventive properties of ES2B-C001 as a future phase 3 study, we expect sales of ES2B-C001 to surpass USD 4bn .

Sum-of-The-Parts valuation of ExpreS2ion Biotech

	Project value (MSEK)	Value / share (SEK)	Peak sales (EURm)	LOA*	WACC	Share of NPV	Comments
ES2B-C001	256	40	4 377	11%	15%	100%	Phase 1 started
Adaptvac holding	92	14		100%	12%	34%	Minority holder
Platform	42	7	0,6	100%	10%	100%	cash flow based
Malaria project	70	11	175	15%		6%	of consortium
Indigo (influenza)	17	3	952	3%		6%	of consortium
CMV program	0	0	0	0%	0%	0%	CD election 2025
Nipha program	23	4	100	3%		30%	of consortium
Administration	-25	-4					
Sum	475	75					
							<i>Projected no. of shares, end of 2026 (mln) 6,35</i>
							<i>current number of shares (mln) 2,66</i>

*) Likelihood of approval

Discussion of LOA at 11 percent

As a result of the BASG approval of the phase 1 study we raised our likelihood of approval (LOA) for ES2B-C001 to 11 percent from previously 10 percent. At this stage we chose to retain a LOA of 11 percent

Our base scenario would be above the industry average in cancer drug development for a phase 1 project in its early stages. The industry average of an oncology product initiating phase 1 is more in the region of 4-6 percent.

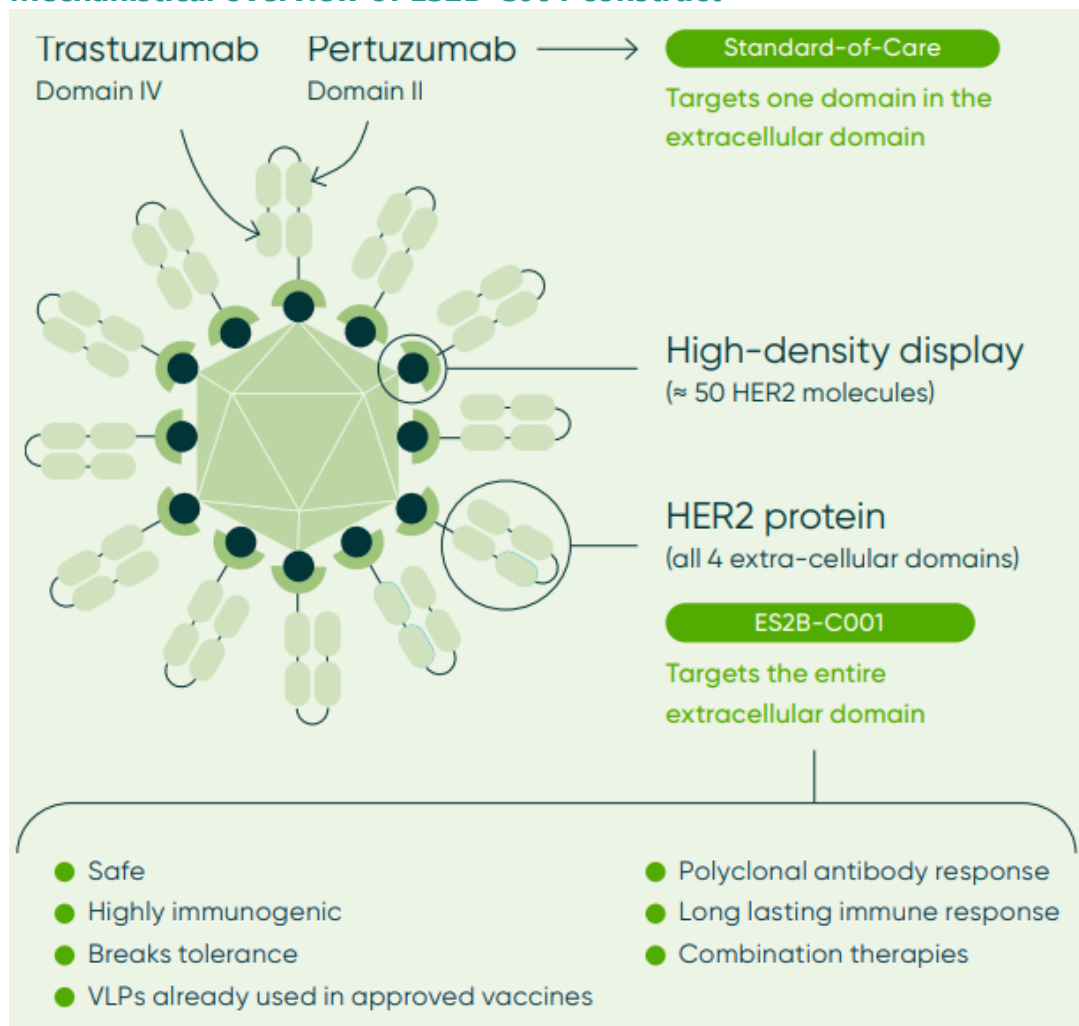
We justify this level by the vaccine approach of ES2B-C001, which may be associated with a lower development risk than a small molecule kinase inhibitor or a monoclonal antibody. Current preclinical data and manufacturing investments add to our optimistic scenario.

On the negative side, it should be kept in mind that very few therapeutical vaccines have made it to the market so far, in spite of many efforts during the last decade.

Assumptions of risk adjusted NPV calculation

Appendix based on previous report

Mechanistical overview of ES2B-C001 construct



Source: ExpreS2ion Biotechnologies annual report

The illustration above shows the polyclonal binding of ES2B-C001 to all four external domains/epitopes of the HER2 protein. The HER2 protein is a self-protein widely expressed in several cancer types. In breast cancer, the standard of care, the antibodies trastuzumab and pertuzumab, are monoclonal, each of them binding to one of the domains/epitopes.

This polyclonal property of the cancer vaccine candidate ES2B-C001 may in theory confer with a more aggressive suppression of tumor growth. By combining ES2B-C001 with Enhertu we would anticipate an even stronger response, but also that initial safety concerns may increase. The primary endpoints of the study are safety, tolerability, and maximum tolerated dose. Signs of clinical efficacy, such as objective tumor responses, are included as an exploratory endpoint.

Also, this first-in-human study investigates ES2B-C001 as a therapeutic agent, distinct from the preventive role assigned in general to vaccines. Future studies will look into whether the polyclonal nature of the vaccine candidate can overcome the

treatment resistance, which limits the efficacy of current monoclonal antibody therapies.

Amendment to study protocol

The structure of a clinical study is mastered by the study protocol, which sets out criteria for which type of patients can participate. In order to accelerate the enrolment to the ES2B-C001 study management has applied for an expansion of the current protocol, which allows for only trastuzumab-treated patients, to also include patients that are concurrently receiving Enhertu or other antibody-drug conjugates (ADCs). The Austrian Health Care Agency BASG confirmed the amendment in June.

A shifting landscape in breast cancer

Enhertu is rapidly overtaking the position as standard-of-care for in metastatic HER2 positive breast cancer, which is the target population for ES2B-C001. Enhertu is an Antibody-Drug Conjugate made up of both the antibody trastuzumab and the cytotoxic deruxtecan. Last year, Enhertu had sales of USD 3.7bn and is expected to reach sales of USD 10bn by 2028, pointing to the huge commercial potential in this patient setting.

The success of Enhertu in treating HER2 expressing metastatic breast cancer is changing standard of care. In April AstraZeneca/Daiichi Sankyo released results for a first line setting in HER-2+ breast cancer, which showed Enhertu improving progression-free survival compared to a group treated with the current standard THP (taxane, trastuzumab and pertuzumab).

As a shift in standard of care takes place in a therapeutical area this has consequences for other parties developing new drugs, such as ExpreS2ion Biotechnologies' breast cancer vaccine candidate ES2B-C001. The company is now looking to adjust its protocol for the phase 1 study to include patients treated with Enhertu. The current protocol allows for including patients after treatment with only trastuzumab, a generic antibody serving as the backbone in HER2-expressing breast cancer treatment. Trastuzumab is one of the two components making up Enhertu, an antibody-drug conjugate (ADC).

Negotiation with Serum Institute

In the report for the second quarter of 2025, ExpreS2ion lists eleven malaria trials by University of Oxford (UoO), involving antigens expressed by the ExpreS2 platform. This compares to the ten studies listed in the Q1 report.

All eleven programs are adjuvanted by the Matrix-M, an adjuvant produced by the vaccine developer Novavax. We note that Novavax is not involved in the production of antigen proteins, which is conducted by the ExpreS2 platform.

Antigens are produced for the malaria parasite subtypes RH5.1 and RH5.1+R78C. These programs focus on the blood stage of the disease by blocking the parasite's ability to invade red blood cells. Additionally, ExpreS2ion support development of a Pfs48/45

vaccine, which aims to prevent transmission of the parasite by targeting its reproductive stage in mosquitoes.

VAC085, which evaluated Pfs48/45 in Matrix-M, has already demonstrated first encouraging results in phase 1. The vaccine was well-tolerated, with no serious adverse events reported, and showed a strong antibody response and transmission reducing activity.

UoO programs involving the ExpreS2 platform

Vaccines in trial	Trial abbreviation	Phase	Sites	Trial status	Estimated completion
Pfs48/45 in Matrix-M	VAC-085	I	Oxford, UK	Concluded	March 2025
	VAC-099	Ib	INSTech, Burkina Faso	Actively recruiting	H1 2026
RH5.1 in Matrix-M	BIO-002	Ia	Sheffield, UK	Fully recruited	Q3 2025
	VAC-089	Ia	Oxford, UK	Fully recruited	Q1 2026
	BIO-003	Ib	IHI Bagamoyo, Tanzania	Recruiting	Q2 2026
RH5.1 & R78C in Matrix-M	VAC-087	I/IIb	IRSS CRUN, Burkina Faso	Funded, not initiated	TBD
	VAC-093	Ib	IRSS CRUN, Burkina Faso	Not yet recruiting	Q3 2026
	BIO-005	I/IIa	Oxford, UK	Funded, not initiated	TBD
RH5.1 & RH5.2-VLP in Matrix-M	BIO-001	Ia	Oxford, UK	Fully recruited	Q1 2026
	VAC-091	IIb	IRSS CRUN, Burkina Faso	Actively recruiting	Q2 2026
RH5.2-VLP & R21 in Matrix-M	VAC-086	Ib	MRC Unit, The Gambia	Fully recruited	Q4 2025

Source: ExpreS2ion Q2 report

In October last year ExpreS2ion announced it had entered a term sheet with Serum Institute of India Private Ltd (SIIPL) regarding the exclusive rights for SIIPL to develop, manufacture, and commercialize certain malaria vaccine projects in ExpreS2ion's development portfolio. All projects are developed and sponsored by the University of Oxford, which has an extensive portfolio of malaria programs ongoing in various parts of the world.

Final agreement with SIIPL pending

So far, a final agreement with SIIPL has not been reached. We expect this will happen in 2025 and provide support to the share price along with a news flow from the phase 1 trial with ES2B-C001.

SIIPL is the producer of the recently approved R21/Matrix-M malaria vaccine, developed through collaboration with the Jenner Institute at Oxford University, leveraged by Novavax's saponin-based adjuvant technology Matrix-M.

As for the programs involving ExpreS2ion's technology, they are designed to target the "blood stage" of the malaria parasite's life cycle as opposed to existing vaccines like R21/Matrix-M which target the "liver stage". Based on clinical results from the University of Oxford, there is an expectation that a vaccine addressing both stages could provide better protection against malaria.

SIIPL is the world's largest vaccine manufacturer by number of doses produced and sold globally (more than 1.5 billion doses annually) which includes Polio vaccine, Diphtheria, Tetanus, Pertussis, Hib, BCG, r-Hepatitis B, Measles, Mumps, Rubella as well as Pneumococcal and COVID-19 vaccines.

Second generation malaria vaccine launched

The first doses of the recently approved R21/ Matrix-M™ adjuvant malaria vaccine has been shipped to Africa and are expected to be offered in 15+ countries across Africa in 2025.

Malaria is a life-threatening disease caused by a parasite that infects mosquitos and is subsequently transmitted to humans. According to the 2024 WHO World Malaria Report, there were an estimated 263 million malaria cases in 2023 and 597,000 malaria-related deaths worldwide.

In December 2023, the WHO announced it prequalified the R21/Matrix-M™ adjuvant malaria vaccine to prevent malaria disease in children caused by the *P. falciparum* parasite in endemic areas. Prequalification status enables United Nations agencies to procure the vaccine for eligible countries and enabled rollout of the vaccine in mid-2024. The WHO recommended that the R21/Matrix-M™ adjuvant malaria vaccine be administered in a four-dose schedule beginning at five months of age.

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