



## Press release

### Orexo enters into collaboration with Abera to develop nasal powder vaccines based on the AmorphOX technology

- The collaboration is in line with Orexo's strategy to broaden the use of its powder-based drug delivery technology AmorphOX®.
- Abera is a developer of mucosal vaccines and has several preclinical vaccine candidates based on Abera's innovative vaccine platform.
- The AmorphOX technology has the potential to improve the stability and efficacy of Abera's vaccine candidates.

**Uppsala, December 17, 2024** – Orexo AB (publ.), (STO:ORX) (OTCQX:ORXOY), continues to develop its innovative powder-based drug delivery technology AmorphOX to improve the properties of new or existing drugs. The aim is to develop formulations that help to significantly stabilize the active ingredient and enable alternative and more effective routes of administration. AmorphOX-based formulations can be used for a wide range of active ingredients, from small molecules and peptides to larger biomolecules such as vaccines.

As a next strategic step to leverage the scalability of AmorphOX, Orexo has entered into a collaboration with Abera Bioscience ('Abera'), a platform and vaccine developer with over 30 years of research in the medical, molecular and microbiological fields. The aim of the collaboration is to develop mucosal vaccines based on Abera's innovative and patented vaccine platform.

As a first step, the aim is to develop powder-based intranasal vaccine candidates, focusing on Abera's influenza vaccine candidate. An intranasal influenza vaccine has the potential to easily and effectively help reduce the spread of infections and prevent disease, which could play an important role in a potential future pandemic.

*"Influenza is a family of viruses that could mutate and cause the next pandemic, but seasonal influenza is already a major problem where vaccines are often not effective enough. Orexo has an impressive knowledge and technology for powder formulations of medicines that perfectly complements our expertise in vaccine development. Their innovative technology, AmorphOX, has shown to improve the properties of a wide range of different active ingredients. There is therefore great potential in this area, and we will be able to take many important development steps in the coming year," says Maria Alriksson, CEO of Abera Bioscience.*

The collaboration is funded by Abera through various previously received grants, mainly from CEPI (the Coalition for Epidemic Preparedness Innovation).



**Robert Rönn, SVP and Head of R&D at Orexo, says:** *"Abera has an innovative and promising vaccine platform for the development of mucosal vaccines, as confirmed by their recent funding from CEPI. The collaboration is fully in line with our strategic development of the AmorphOX® platform and through collaborations we can showcase the potential and value of our technology. We look forward to working with Abera, where our experience and technologies are highly complementary."*

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**About Orexo**

Orexo is a Swedish pharmaceutical company with 30 years of experience developing improved pharmaceuticals based on proprietary formulation technologies that meet large medical needs. On the US market, Orexo provides innovative treatment solutions for patients suffering from opioid use disorder and adjacent diseases. Products targeting other therapeutic areas are developed and commercialized worldwide with leading partners. Total net sales in 2023 amounted to SEK 639 million, and the number of employees to 116. Orexo is listed on Nasdaq Stockholm's main list and is available as an ADR on OTCQX (ORXOY) in the US.

For more information on Orexo, visit [www.orexo.com](http://www.orexo.com). Follow Orexo on X, LinkedIn, and YouTube.

**About AmorphOX**

Orexo's proprietary drug delivery platform, AmorphOX, is a powder made up of particles which are built using a unique combination of a drug, carrier materials and, optionally, other ingredients. The particles are presented as an amorphous composite of the various ingredients providing for excellent chemical and physical stability, as well as rapid dissolution. The technology works for a broad scope of active ingredients and has been validated in several human clinical studies showing rapid and extensive drug exposure.

**About Abera**

Abera Bioscience AB is a Swedish vaccine and biotechnology company founded in 2012, originating from molecular biology research at Vrije Universiteit Amsterdam and Stockholm University. Abera develops innovative vaccines based on proprietary and patented platform technologies. The vaccine candidates can be administered as nasal sprays and are fast and cost-effective to develop and produce. Using its platform technologies, the company has developed several vaccine candidates and is currently focused on two main areas: pneumococcal vaccines and pandemic



preparedness. The company's lead candidate, Ab-01.12, is a nasal vaccine against pneumococci, being prepared for Phase 1 clinical trials.

**About BERA™**

Abera's BERA™ vaccine platform is based on bacterial particles known as OMVs (Outer Membrane Vesicles), which are decorated with a large number of disease-specific antigens. Vaccines based on the BERA platform can be administered as nasal sprays and create protection in both mucosal membranes and systemically in the body, aiming to protect against both disease and transmission. The platform technology enables the rapid development of new vaccine candidates as antigens can be replaced in a plug-and-play manner.

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