



Press release

Orexo announces positive data for powder-based intranasal vaccine formulated with the AmorphOX technology

- The study was conducted in partnership with Abera Bioscience, a platform and vaccine developer with over 30 years of research in the medical, molecular and microbiological fields.
- Both formulations tested induced strong systemic antibody response in serum (IgG) as well as locally in the nose and lungs (IgA).
- The collaboration is in line with Orexo's strategy to broaden the use of its powder-based drug delivery technology, AmorphOX®.

Uppsala, Sweden – April 10, 2025 – Orexo AB (publ.), (STO:ORX) (OTCQX:ORXOY), today announces positive in-vivo proof-of-concept data for a powder-based intranasal vaccine candidate formulated with the AmorphOX technology.

The data was generated under the collaboration between Orexo and Abera Biosciences (“Abera”) entered in December 2024. The aim of the collaboration is to develop mucosal vaccines by combining Orexo’s powder-based drug delivery technology AmorphOX with Abera's innovative and patented vaccine platform BERA™.

The proof-of-concept study was conducted in rats where Abera’s influenza vaccine candidate was administered intranasally, either formulated as a liquid nasal solution or as an intranasal powder using Orexo’s AmorphOX technology. Both formulations induced strong systemic antibody response in serum (IgG) as well as locally in the nose and lungs (IgA). No difference in immune response was seen between the liquid nasal solution and the intranasal powder.

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. Formulating vaccines in powder form using the AmorphOX technology provides the potential to develop cost-efficient, thermostable vaccines with no need for cold chain requirements.

Robert Rönn, SVP and Head of R&D, comments: *“We are pleased by these results providing us with important proof-of-concept data for a vaccine formulated in our proprietary powder-based drug delivery technology AmorphOX. The potential benefits from formulating vaccines in powder form are significant, as they can reach so many more patients worldwide. The study results represent an important milestone in our continued efforts to develop new and innovative drugs.”*



“It is very encouraging to see that our vaccines perform well in both liquid and powder forms. Powder formulations offer significant advantages in future pandemic scenarios, particularly in terms of simplified logistics, thermal stability, and the potential for self-administration during mass vaccination campaigns. Orexo’s AmorphOX technology is an innovative platform that appears to preserve the immunogenic properties of our vaccine,” says **Mats Lundgren, CSO of Abera Bioscience.**

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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. Products targeting other therapeutic areas are developed and commercialized worldwide with leading partners. Total net sales in 2024 amounted to SEK 590 million, and the number of employees to 110. Orexo is listed on Nasdaq Stockholm's main list and is available as ADRs on OTCQX market (ORXOY) in the US.

For more information on Orexo, visit 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 that 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 Bioscience

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.

For more information on Orexo, www.aberabio.com.

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 that enables the rapid development of new vaccine candidates as antigens can be replaced in a plug-and-play manner.

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