



Aptar Pharma Announces New Patent Applications and Preclinical Data Supporting Investigation of Intranasal and Pulmonary GLP-1 Delivery

Program expands Aptar Pharma's capabilities to support inhaled and intranasal delivery of biologics

Crystal Lake, Illinois, May 28, 2026 – Aptar Pharma, a global leader in drug delivery, dosing, protection technologies and services, today announced the publication of three new international patent applications focused on enabling inhaled and nasal delivery of GLP-1-based therapies. The applications arise from an internal strategic R&D program intended to expand Aptar Pharma's capabilities in biologics delivery and strengthen its intellectual property position in high-growth therapeutic areas.

Pulmonary and respiratory delivery is expanding beyond traditional allergy and asthma applications, with growing interest in broader systemic drug delivery. The newly published patent applications describe formulation approaches for GLP-1 drug substances, including spray-dried and powder processing technologies designed to support nasal and pulmonary administration. Preclinical pharmacokinetic (PK) studies were performed on both liquid and powder formulations of semaglutide, showing up to 10x improvement in the systemic C_{max} (peak blood concentration) when compared with a comparable oral dose in a preclinical model. Together, the published patent applications and supporting preclinical data provide preclinical proof-of-concept for Aptar Pharma's formulation and device-enabled approaches in challenging peptide delivery scenarios. These approaches remain investigational and have not been approved for clinical or commercial use.

These patent publications underscore Aptar Pharma's sustained investment in advanced drug delivery solutions and broaden the company's growing intellectual property portfolio in aerosolized biologics. The development work was performed across [Aptar Pharma Services](#) teams in the UK, U.S. and France, leveraging expertise in formulation science, analytical characterization and device compatibility for orally inhaled and nasal drug products (OINDPs).

The GLP-1 program aligns closely with Aptar Pharma's broader biologics compatibility program, which is systematically assessing how complex biologic molecules - such as nucleic acids and proteins - and their often-associated nanoparticle-based drug delivery systems interact with Aptar Pharma's nasal and pulmonary systems across a range of formulations and delivery formats. Aptar Pharma expects to present additional data at scientific conferences and in peer-reviewed publications throughout 2026 and 2027, subject to the completion of ongoing research and applicable publication timelines.

Together, these initiatives highlight Aptar Pharma's differentiated capability to support pharmaceutical companies involved in biologics product development through an integrated, end-to-end services model - from early feasibility and intellectual property generation through to preclinical and clinical development activities.

Alex Theodorakis, President, Aptar Pharma Prescription, commented, "These patent publications reflect Aptar Pharma's long-term commitment to addressing some of the most challenging delivery problems in the specialized field of intranasal and pulmonary delivery, including biologics and peptide-based therapies."



Press Release



Sai Shankar, President, M&A, Strategy, Business Development, Marketing & Drug Services, Aptar Pharma, added, “By combining formulation and analytical innovation with proven device technologies, we are creating further opportunities for our pharmaceutical partners to accelerate their development programs with Aptar Pharma.”

As demand continues to grow for alternative, patient-friendly delivery routes for biologics such as GLP-1 therapies, Aptar Pharma is uniquely positioned to support innovators with scientific depth, proven delivery platforms and global infrastructure - helping advance next-generation products from early feasibility through development and commercialization activities.

About Aptar Pharma

Aptar Pharma is part of AptarGroup, Inc., a global leader in drug delivery, dosing and protection technologies, and consumer product dispensing. Aptar partners with the world’s top healthcare and consumer brands to deliver medicines and create exceptional user experiences. Serving diverse markets, from pharmaceutical to beauty to food and beverage, Aptar combines market expertise with proprietary design, engineering and science to develop innovative solutions that help improve lives worldwide. Headquartered in Crystal Lake, Illinois, Aptar employs 14,000 dedicated people across 20 countries. Learn more at www.aptar.com.

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