Qanatpharma, Zuse Institute Berlin, Enamine, and Proteros biostructures Announce Generative-AI Driven Lead Discovery Collaboration

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Joint research effort targets new treatments for life-threatening complication of brain hemorrhage

An international discovery collaboration is harnessing AI-powered drug discovery to develop a first-in-class therapy to prevent delayed cerebral ischemia in patients with subarachnoid hemorrhage.

Stans, Toronto, Munich, Berlin, Kyiv – July 9th, 2025

Qanatpharma (QP), Zuse Institute Berlin (ZIB), Enamine, and Proteros biostructures today announced the launch of a research collaboration to accelerate the discovery of novel therapeutics targeting cerebral perfusion deficits associated with subarachnoid hemorrhage (SAH). The collaboration focuses on a protein target identified by QP that is involved in regulating cerebrovascular resistance in the brain—a mechanism shown to be compromised in patients with SAH.

This program spans the drug discovery and development process from early generative molecular design and docking studies done by the ZIB developing its proprietary algorithms, via the REAL®-directed compound synthesis by Enamine, the world's largest supplier of make-on-demand small molecules, to the validation of hit compounds by Proteros using their structure-based drug discovery platform.

Targeting a Critical Unmet Need in Stroke Recovery

Subarachnoid hemorrhage is a severe form of stroke caused by bleeding into the space surrounding the brain. A leading complication in SAH survivors is delayed cerebral ischemia (DCI), a condition that reduces cerebral perfusion and significantly contributes to long-term neurological damage, disability, and death. Current treatment options are largely ineffective. Nimodipine, a calcium channel blocker currently approved as a standard of care for SAH, fails to target the molecular mechanism underlying DCI presumably explaining its limited clinical efficacy.

Together, the partners of this collaboration combine detailed insights into the microvascular nature of cerebrovascular complications with computational innovation, medicinal chemistry, protein sciences, biophysics, biochemistry, and structural biology, including cryo-EM, to develop targeted small molecule lead candidates. QP initiated the collaboration to develop its well-characterized cerebrovascular target into an innovative therapy. ZIB brings deep expertise in high-performance computing, ligand docking, and AI-based generative ligand design. Enamine's unique key to access ultra-large chemical space via the REAL® approach, it's unparalleled compound libraries and synthesis capabilities allow rapid translation of virtual hits into real novel chemical matter. Proteros leverages its drug discovery platform to deliver structurally enabled Qualified Hits Lead Series with fully characterized Mode-of-Action enabling downstream Lead Optimization and pre-clinical development.

"Delayed cerebral ischemia is a major contributor to poor outcomes following subarachnoid hemorrhage, and current treatment options remain limited," said Dr. Steffen-Sebastian Bolz, Chief Medical and Scientific Officer at Qanatpharma. "By building this consortium, we are bringing together the brightest machine learning engineers, chemists, structural biologists, and other scientists to tackle this critical complication. Together, we aim to accelerate the development of a targeted therapy that could significantly improve recovery and long-term outcomes for patients affected by SAH."

DSc. Yurii Moroz, Vice President of Sales and Marketing, Enamine: "Our consortium with strong complimentary expertise leverages the challenging opportunity to navigate towards the most suitable first-in class drug candidate by pushing the limits of accessible chemical space," and Dr. Sven H. Wagner, Vice President of Partnerships at Enamine Germany said "Enamine underscores with our consortium it's partnership commitment translating critical discoveries without delay, with highest scientific rigor and under challenging funding bottlenecks into life-saving medicines for patients with high unmet medical need such as with conditions of delayed cerebral ischemia with SAH."

"We are pleased about this collaboration aiming to address a drug target identified by QP which could transform the treatment of life-threatening complications", said Dr Torsten Neuefeind, Proteros.

Next Steps and Outlook

This multiparty collaboration has already initiated compound screening efforts and will proceed to in vitro validation studies in the second half of 2025. This marks the most significant effort so far towards understanding and ultimately treating diseases driven by microvascular dysfunction with innovative compounds. The program sets a precedent for the use of generative AI technologies in accelerating early-stage drug discovery for cerebrovascular conditions. Stakeholders and researchers interested in collaboration or progress updates are invited to follow the project via QP's website or contact the collaborators directly.

Company Summaries:

About Qanatpharma AG
Qanatpharma (QP) is a Phase 2 clinical-stage biopharma company developing innovative therapies for diseases where microvascular dysfunction is a central feature. QP manages a pipeline that spans from microvascular target discovery and validation via AI-driven drug development to preclinical studies and, ultimately, clinical trials. For more information, please visit www.qanatpharma.com

About Zuse Institute Berlin
The Zuse-Institute Berlin (ZIB) is an interdisciplinary research institute for applied mathematics and data-intensive high-performance computing. Its research focuses on modeling, simulation and optimization with scientific cooperation partners from academia and industry. For more information, please visit www.zib.de

About Enamine Ltd.
Enamine is the leading provider of chemical compounds and a scientifically driven integrated discovery Contract Research Organisation for integrated discovery with unique partnering opportunities in exploring new chemical space. The company combines access to the in-house produced screening compounds (4.5M in stock) and building blocks (350K in stock) with a comprehensive platform of integrated discovery services in bioinformatics, biology, and chemistry to advance and accelerate the efforts in drug discovery. For more information, please visit: enamine.net/

About Proteros biostructures GmbH
Proteros is a structure-based drug discovery provider with cutting edge platform to unlock even the most technically challenging drug targets.
For more information, please visit www.proteros.com

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