

PRESS RELEASE

"First-in-Class" mRNA-therapeutics for vascular diseases: Pantherna Therapeutics receives 7-digit investment

Hennigsdorf, July 3, 2019

- The life science start-up Pantherna Therapeutics secures €3.5 million in a successful seed-financing round.
- The start-up presents a proprietary, innovative technology platform for the development of novel mRNA therapeutics to treat Acute Respiratory Distress Syndrome (ARDS), a severe lung disease.
- The funds will be used to advance R&D activities and hire additional scientific staff.
- Investors are the High-Tech Gründerfonds (HTGF), European Business Angel Prof. Detlev Riesner as well as the European Investment Fund and the State of Brandenburg.

ARDS is a life-threatening condition characterized by widespread and excessive inflammation in lung tissue. This inflammation induces a disease process characterized by a pathological cascade of reactions. Currently, ARDS has a mortality rate of 30-45% whereas survivors are often unable to work for several month or years. So far, no pharmacological therapy is available. This is envisioned to change. Pantherna Therapeutics GmbH develops a novel pharmaceutical agent preventing the formation of edema and lung tissue injury over the course of ARDS.

ARDS is caused by a dysfunction of the endothelium, the inner lining of all blood vessels. The permeability of the endothelium for fluids and small molecules is controlled by signaling proteins. If an imbalance exists in the signaling pathway due to lung tissue inflammation, fluids (edema) can significantly impair lung function. Development of drugs restoring the deregulated pathway has been hindered by two main challenges: "The production of relevant signaling proteins turned out to be technically too challenging. Moreover, even if such signaling molecules could be produced, another hurdle would be the delivery to the afflicted tissue in the body", explains Jörg Kaufmann, CSO.

The Pantherna team has overcome these challenges with an innovative approach involving the active drug, in this case not a protein but a therapeutic nucleic acid: an mRNA used in endothelial cells as a template for the production of the therapeutic proteins. By applying this innovative approach, the protein is produced by the endogenous endothelial cells in the lung. To ensure an effective delivery of the nucleic acid into the endothelial cells, Pantherna has developed a proprietary technology platform. To this end, modified mRNAs are encapsulated into small lipid particles, which are incorporated by the lung's endothelial cells.

The relevance of Pantherna's technology platform is unfolding into further applications, as stated by Dr. Klaus Giese, CEO: "With our approach to transport nucleic acids with lipid-based nanoparticles (LNPs) into endothelial cells to produce proteins for therapeutic use we are laying the groundwork for novel treatment in numerous vascular diseases".

Prof. Riesner, Qiagen-cofounder and private investor of several Biotech companies, points out: „At Pantherna, I was fascinated by the innovative and scientifically sound approach to apply endothelial specific mRNAs. The competence of the founding team and the co-investment of the HTGF as well as the support of the state of Brandenburg are excellent starting conditions “.

Dr. Anke Caßing, Investment Manager at HTGF, adds: "The team has all the prerequisites to successfully develop the product further. The market for RNA therapeutics offers enormous

potential, also in the long term. This is an excellent basis for a success story which will be talked about."

About Pantherna

Pantherna Therapeutics is a privately-held biopharmaceutical Company developing first-in-class therapeutics for vascular diseases. Pantherna's innovative technology platform is based on advanced nanoparticles for the delivery and expression of therapeutic mRNA drugs in the endothelium. Pantherna is based in Hennigsdorf (Brandenburg) close to Berlin, Germany.

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About High-Tech Gründerfonds

High-Tech Gründerfonds (HTGF) is a seed investor that finances high-potential, tech-driven startups. With EUR 895.5 million in total investment volume across three funds and an international network of partners, HTGF has already helped forge more than 540 startups since 2005. Driven by their expertise, entrepreneurial spirit and passion, its team of experienced investment managers and startup experts help guide the development of young companies. HTGF's focus is on high-tech startups in a range of sectors, including software, media, internet, hardware, automation, health care, chemistry and life sciences.

To date, external investors have injected over EUR 2 billion into the HTGF portfolio via more than 1,400 follow-on financing rounds. HTGF has also successfully sold interests in more than 100 companies. Investors in this public-private partnership include the Federal Ministry For Economic Affairs and Energy, the KfW Capital, and Fraunhofer-Gesellschaft e.V., as well as the companies ALTANA, BASF, BAYER, B.Braun, Boehringer Ingelheim, Robert Bosch, BÜFA, CEWE, Deutsche Post DHL, Dräger, Drillisch AG, EVONIK, EWE AG, FOND OF, Haniel, Hettich, Knauf, Körber, LANXESS, media + more venture Beteiligungs GmbH & Co. KG, PHOENIX CONTACT, Postbank, QIAGEN, RWE Generation SE, SAP, Schufa, Schwarz Gruppe, STIHL, Thüga, Vector Informatik, WACKER and Wilh. Werhahn KG.

For more information, click here: www.htgf.de/en

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