APTAHEM

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Aptahem's collaboration with Örebro University further increases the understanding of Apta-1

Aptahem (publ) is a biotech company developing aptamer-based pharmaceuticals for the treatment of life-threatening conditions, such as sepsis. A similar mechanism occurs in cardiovascular diseases where a combination of coagulation and inflammation are involved. Aptahem today announces that the collaboration with the Cardiovascular Research Centre (CVRC) at Örebro University with funding from the Knowledge Foundation's Prospect Call now has generated its first results. Preliminary data confirm the previously known anti-inflammatory and non-toxic properties of Apta-1 and also show new insights which potentially can include positive effects on inflammation in blood vessels.

The preliminary data that have been presented to Aptahem are based on an inflammation based endothelial cell model* and a model to study how the trombocytes (platelets) aggregate. The results show that Apta-1 not generally affects the trombocyte aggregation which is positive since the trombocytes potentially could form blood clots in the vessel. Also, inflammatory proteins that are connected to endothelial cells have been studied and Apta-1 inhibits several of the proteins involved in the inflammation which are released in atherosclerotic plaque. This is also very positive since the inflammation is a central mechanism in for example atherosclerosis. Additionally cytotoxicity was studied and Apta-1 does not show any signs of this which confirms the already known preclinical safety profile of Apta-1.

The studies at Örebro University have been initiated with two different purposes. Firstly, to study Apa-1's role in the process where blood platelets (trombocytes) form a plug (aggregate) which on one hand can inhibit bleeding, and on the other hand cause formation of blood clots. Forming trombocyte plugs (trombocyte aggregate) takes therefore a balance in the blood and an intricate interaction between trombocytes and the endothelial cells in the vessel wall. The research team in Örebro is studying trombocyte aggregation using a Chrono-log aggregometry. The other purpose leading to the collaboration with the Örebro University is just inflammation in the blood vessels, which is studied in various *in vitro* model systems.

"These are new important results which further confirm earlier studies in other systems showing Apta-1's potential effects and unique function on, for example, vessel damage in sepsis. This brings deeper understanding of how Apta-1 acts, and is important in the future planning of the clinical programme" says Mikael Lindstam, CEO at Aptahem.

Verification and development of the studies on Apta-1 in cardiovascular model systems will be expanded when the studies continue after the holiday season.

* *The tissue inside a blood vessel*

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Forward-looking information

This press release contains forward-looking statements that constitute subjective estimates and forecasts about the future. Assessments about the future are only valid on the date they are made and are, by their nature, similar to research and development work in the biotech field, associated with risk and uncertainty. In light of this, actual outcomes may differ substantially from what is described in this press release.

About Cardiovascular Research Centre (CVRC), Örebro University

Cardiovascular Research Centre (CVRC) is a research environment founded in 2014 at the Örebro University and consists of about 30 scientists at the university and Region Örebro. CVRC's overall goal is to increase the knowledge about disease mechanisms, more efficient diagnoses, treatment and prevention of cardiovascular diseases. In the project together with Aptahem, the scientists Dr Geena Paramel and Associate Professor Karin H Franzén at the Molecular Cardiovascular Inflammation Group and Professor Magnus Grenegård at the Haemostatic Research Group are involved. Link to the CVRC at Örebro University: https://www.oru.se/english/research/research-environments/mh/cardiovascular-research-centre-cvrc/

About Aptahem

Aptahem AB (APTA) is a biotechnology company that develops aptamer-based pharmaceuticals for the treatment of life-threatening conditions in which a combination of coagulation and inflammation are involved. The company's primary pharmaceutical candidate, Apta-1, is being developed with the aim of preventing the high mortality rate caused by organ and tissue damage in sepsis patients, among others. The company possesses patent protection in strategic target markets and actively seeks business development opportunities with potential collaborators.