Defence Investigates the Application of the Accum Hydrogel Technology to Deliver GLP-1 in Order to Increase the Treatment Efficacy of Diabetes and Weight Loss

Vancouver, British Columbia--(Newsfile Corp. - August 19, 2024) - Defence Therapeutics Inc. (CSE: DTC) (OTCQB: DTCFF) (FSE: DTC) ("Defence" or the "Company"), a Canadian biopharmaceutical company developing novel immune-oncology vaccines and drug delivery technologies, is pleased to announce a project consisting of investigating the potential benefit of using the Accum® technology to increase the half-life and efficacity of the GLP-1 agonist as a treatment for obesity and related comorbidities (type 2 diabetes).

Obesity is one of the most urgent health challenges in the world with extensive comorbidities, such as type 2 diabetes, cardiovascular diseases, steatohepatitis and chronic kidney disease to name a few. Over four billion people - about 50% of the world's population - are estimated to be impacted by obesity or being overweight by 2035. According to WHO, more than one billion people are obese including 650 million adults, 340 million adolescents and 39 million children. The growing number puts an incredible strain on societies and healthcare systems around the world. With the development of revolutionary drugs able to reduce the body weight by 15% to 20% of overweight and obese patients, this could be the biggest opportunity that the pharma industries have ever seen.

https://www.who.int/news-room/fact-sheets/detail/obesity-and-overweight

https://www.worldobesity.org/news/economic-impact-of-overweight-and-obesity-to-surpass-4-trillion-by-2035

Native GLP-1 has a very short half-life (~ 2 min) and is rapidly degraded by dipeptidyl peptidase-IV (DPP-4). Modified GLP-1 peptide analogs with improved stability have therefore been developed for therapeutic purposes. The first GLP-1 peptide analog approved as an anti-diabetic agent is exenatide. The half-life of exenatide after subcutaneous injection is ~2-3 h, requiring two injections daily. Liraglutide is a human GLP-1 analog with a half-life of ~13 h, making it suitable for a single daily administration. In the last few years, dulaglutide and semaglutide have become available; these are long-acting GLP-1 analogs with >100-hour half-lives and require a single weekly injection. Current limitations of GLP-1 peptide analogs include the tolerability of gastrointestinal side effects, challenges with managing injections, as well as costs and scalability of drug manufacturing. Furthermore, there are still patient populations whose glucose levels and body weight cannot be adequately controlled by current therapeutics. Unfortunately, while optimization of GLP-1 drugs has reduced injection frequency from daily to weekly, the treatment burden of weekly injection still led to poor patience compliance and the development of longer acting GLP-1 agonists still to be a need for the patient compliance.

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4329993/

https://link.springer.com/chapter/10.1007/5584_2020_496

https://www.sciencedirect.com/science/article/pii/S1262363623000526?via%3Dihub

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC10823535/

Defence is currently planning to develop a formulation incorporating the Accum® technology to improve in *vivo* stability, distribution, tolerability and activity of GLP-1 analogs by acting as a protector nanocarrier formulation.

According to GlobalData, the market for GLP-1 receptor agonists is growing at an "unprecedented" rate and by 2033 it will be worth more than US$ 125 billion.

https://www.biospace.com/glp-1-receptor-agonist-market-to-reach-125b-by-2033-globaldata

About Defence:

Defence Therapeutics is a publicly-traded clinical-stage biotechnology company working on engineering

the next generation vaccines and ADC products using its proprietary platform. The core of Defence Therapeutics platform is the ACCUM® technology, which enables precision delivery of vaccine antigens or ADCs inside target cells and favoring their processing and activities. As a result, increased efficacy and potency can be reached against catastrophic illness such as cancer and infectious diseases.

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