

Defence's Accum(R)-mRNA Lipid Nanoparticles Elicit Antibody Response 2X Stronger than Standard mRNA Vaccines

Vancouver, British Columbia--(Newsfile Corp. - September 25, 2023) - Defence Therapeutics Inc. (CSE: DTC) (FSE: DTC) (OTC Pink: DTCFF) ("**Defence**" or the "**Company**"), a Canadian biopharmaceutical company specialized in the development of immune-oncology vaccines and drug delivery technologies, is pleased to announce that its encapsulation strategy used to generate Accum®-mRNA lipid nanoparticles (LNPs) results in an antibody response that is twice as potent as standard mRNA LNPs. These results constitute a strong basis for conducting additional tests to optimize Defence's mRNA vaccine pipeline.

This *in vivo* study had two main objectives: testing multiple LNP formulations and comparing their induced immune responses to standard mRNA. All vaccines were delivered as part of a prime-boost vaccination protocol with animal bleeding performed every two weeks over a total period of 4 weeks and antibody titers quantified by ELISA. Amongst the tested groups, one Accum®-containing LNP formulation stood-up triggering a higher antibody compared to the remaining groups.

"The use of mRNA vaccines now expanding rapidly into cancer therapeutics will expand exponentially over the next decade due to their established potency and ease of manufacturing. Defence will thus strive in applying its platform of Accum® technology in mRNA vaccination opportunities, which will have a great impact on the induced immune responses," says Mr. Plouffe, CEO of Defence Therapeutics.

Defence will design additional studies, currently now being prepared to test different concentrations of the selected LNPs. Once the optimal dosing is identified, a validation study will be conducted in cancer-bearing mice to test their therapeutic potency. In this case, animals will be transplanted with a solid tumor expressing an experimental antigen followed by a prime-boost vaccination administered alone or in combination with immune-checkpoint blockers such as anti-PD-1.

Accum® has been tested in various applications including protein and cell-based vaccination modalities and was discovered to significantly boost their therapeutic potency. Defence is therefore convinced that Accum® will increase the stability of mRNA molecules by enhancing structural integrity of the molecule, and augment their bio-accumulation and efficient translation in target cells resulting in a stronger immune-reactivity as shown with its latest LNP vaccination study.

The mRNA therapeutics market size is projected to reach around \$137.59 billion (U.S.) by 2032 and growing at a registered compound annual growth rate of 13.2 per cent from 2023 to 2032, according to Precedence Research.

<https://www.precedenceresearch.com/mrna-therapeutics-market>

About Defence:

Defence Therapeutics® is a publicly-traded 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 in their intact form to target cells. As a result, increased efficacy and potency can be reached against catastrophic illness such as cancer and infectious diseases.

For further information:

Sebastien Plouffe, President, CEO and Director

P: (514) 947-2272

Splouffe@defencetherapeutics.com

www.defencetherapeutics.com

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