CSE: DTC FSE: DTC USOTC: DTCFF **PRESS RELEASE**

BREAKTHROUGH DISCOVERY: DEFENCE'S ACCUM™ VARIANT "A1" CONVERTS MESENCHYMAL STROMAL CELLS INTO POTENT ANTIGEN PRESENTING CELLS SUITABLE FOR CANCER VACCINATION

Vancouver, BC, Canada, August 17th, 2022 - Defence Therapeutics Inc. ("**Defence**" or the "**Company**"), a Canadian biopharmaceutical company specialized in the development of immune-oncology vaccines and drug delivery technologies, is pleased to report the development of a novel anti-cancer cellular vaccine by reprogramming the unconventional suppressive mesenchymal stromal cells (MSCs) into potent antigen presenting cells (APCs).

The immune system is a structured entity working in tandem to activate specific immune cells as a means to seek and destroy "non-self" antigens. With respect to cancer, the immune system relies on dendritic cells (DCs), a subset of potent endogenous APCs, to prime cytotoxic T lymphocytes (CTLs). CTLs can then attack and eliminate virally-infected or cancerous cells. Unfortunately, however, most cancer cells can acquire strategies to escape DC-elicited immunity resulting in the development of deadly tumors. Although several strategies were developed by other companies and tested to correct this anomality, most of them failed due to limitations related to inefficient CTL priming. To overcome this issue, Defence Therapeutics applied a novel strategy, which consists at reprogramming the immune-suppressive MSCs to convert them into potent APCs. This discovery and the application are not only unconventional, but it has the potential to revolutionise the field of modern medicine as it applies as novel therapeutic cancer vaccines and infectious diseases vaccines. This application discovered that it uses a unique cell type to which tumor cells are not programmed to respond. The advantage is substantial as MSCs are logistically easier to produce and manufacture compared to conventional DCs.

Defence's technology platform is Accum™. The variant A1 is a variant molecule within the Accum™ platform. This molecule A1 has the ability to form aggregates when admixed to a given antigen. Dr. Nehme Hachem is a computational biologist and pharmacogenomics expert specialized in analysing large chemo-genomic datasets. Dr. Hachem has stated that A1 converts MSCs into APCs by stimulating endoplasmic reticulum stress caused by the A1-antigen aggregates captured by treated cells. Furthermore, A1 could enhance antigen presenting properties through regulating several genes involved in lipid homeostasis, which has been reported to play a role in

inflammation and immune reprogramming. As a result, **A**1-**R**eprogrammed **M**SCs (ARMs) activate a cellular defense mechanism known as the unfolded protein response, which has a single objective: to get rid-off or destroy these toxic protein aggregates via the cellular proteasomal machinery. As such, antigen-pulsed ARMs elicit powerful anti-tumoral CTLs in response to presented peptide fragments.

Defence conducted pre-clinical studies in animals which have recently shown that administration of the ARM vaccine along with the immune-checkpoints anti-PD1 results in a synergistic effect leading to 100% survival of animals with pre-established lymphoma. "This is yet another clear successful example of how versatile and efficient the Accum^{TM} technology is. By optimizing specific components of the Accum^{TM} molecule, Defence can expand and design new entities exhibiting novel pharmacological properties that can be used in the development of new products targeting various cancer indications on a personalized medicine approach", says Mr. Plouffe, the CEO of Defence Therapeutics.

Defence is currently preparing the manufacturing of the ARM vaccine in a GLP clean room in Canada in preparation of a Phase I trial in patients with melanoma. The objective is to start this clinical trial in Q2 of 2023.

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^{TM} 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.

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