asx announcement

mesoblast
the regenerative medicine company

NEW MESOBLAST CELL TARGETING TECHNOLOGY SHOWS POTENTIAL TO INDUCE DURABLE REVERSAL OF TYPE 1 DIABETES

Mesoblast Exclusively Licenses Technology To Enhance Natural Homing Properties Of Cells To Sites Of Inflammation

New York, USA; and Melbourne, Australia; 17 March 2016: Mesoblast Limited (ASX:MSB; Nasdaq:MESO) today announced that the Company has exclusively licensed patented technology developed at Harvard Medical School which can modify mesenchymal lineage adult stem cells (MLCs) to enhance their natural homing properties to sites of excessive inflammation.

MLCs modified using this proprietary cell targeting technology, called ex vivo fucosylation, have successfully induced durable reversal of Type 1 diabetes in a preclinical study. The study results were published in the peer reviewed journal *Stem Cells* (2015; 33:1523-1531).

The results showed that the cell targeting technology increased by three-fold the numbers of MLCs reaching the inflamed pancreas in autoimmune diabetic mice following intravenous infusion, compared with unmodified MLCs. This resulted in a markedly increased number of mice who reverted to having normal blood glucose, and in durable reversal of Type 1 diabetes.

The study's lead investigator, Robert Sackstein, MD, PhD, Professor of Medicine at Harvard Medical School, said: "The hypothesis was that inflammation that destroys pancreatic islet cells could be controlled by selectively targeting the pancreas with anti-inflammatory mesenchymal lineage cells. The realization was that this new clinical approach essentially cured mice of Type 1 diabetes."

Results of a placebo-controlled, randomized, dose-escalating Phase 2 clinical trial of Mesoblast's product candidate MPC-300-IV in patients with Type 2 diabetes were published in the peer-reviewed journal *Diabetes Care* (2015; 38:1742-1749). By enhancing targeting of the cells to the inflamed pancreas, the ex vivo fucosylation technology has the potential to further augment the glucose lowering properties of MPC-300-IV, and to extend its use to patients with Type 1 diabetes.

Type 1 diabetes remains a disease with significant morbidity and mortality despite use of insulin and other glucose-lowering agents. The prevalence of Type 1 diabetes continues to increase in people under age 20, making innovative new treatments a major strategic focus for the pharmaceutical industry.

About Ex Vivo Fucosylation Technology

The new technology licensed by Mesoblast involves a patented process that results in ex vivo fucosylation (exofucosylation) of, or addition of fucose to, cell surface receptors on stem cells. This process modifies these receptors by adding carbohydrate or sugar sequences which allows them to be recognized by and bound to their ligands present on endothelial cells lining blood vessels in inflamed tissues. The licensed technology is supported by United States Patent Office granted patents including US7,875,585, US8,084,236, US8,728,810 and US8,852,935. Latest patent expiry dates are through 2027, with potential for further patent term adjustments and/or extensions.

About Diabetes

Type 1 diabetes is an autoimmune disease in which a person's pancreas stops producing insulin, a hormone that enables glucose to enter cells and thereby allows people to get energy from food. It occurs when the body's immune system attacks and destroys the insulin-producing cells in the islets of the pancreas, called beta cells. Each year the disease contributes to the death of more than 230,000 individuals in the United States. The American Diabetes Association estimates that the total annual cost associated with diagnosed diabetes, which affects nearly 26 million people in the United States alone, is currently $174 billion.

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About Mesoblast

Mesoblast Limited (ASX:MSB; Nasdaq:MESO) is a global leader in developing innovative cell-based medicines. The Company has leveraged its proprietary technology platform, which is based on specialized cells known as mesenchymal lineage adult stem cells, to establish a broad portfolio of late-stage product candidates. Mesoblast's allogeneic, 'off-the-shelf' cell product candidates target advanced stages of diseases with high, unmet medical needs including cardiovascular conditions, orthopedic disorders, immunologic and inflammatory disorders and oncologic/hematologic conditions.

Forward-Looking Statements

This press release includes forward-looking statements that relate to future events or our future financial performance and involve known and unknown risks, uncertainties and other factors that may cause our actual results, levels of activity, performance or achievements to differ materially from any future results, levels of activity, performance or achievements expressed or implied by these forward-looking statements. We make such forward-looking statements pursuant to the safe harbor provisions of the Private Securities Litigation Reform Act of 1995 and other federal securities laws. Forward-looking statements should not be read as a guarantee of future performance or results, and actual results may differ from the results anticipated in these forward-looking statements, and the differences may be material and adverse. You should read this press release together with our risk factors, in our most recently filed reports with the SEC or on our website. Uncertainties and risks that may cause Mesoblast's actual results, performance or achievements to be materially different from those which may be expressed or implied by such statements, and accordingly, you should not place undue reliance on these forward-looking statements. We do not undertake any obligations to publicly update or revise any forward-looking statements, whether as a result of new information, future developments or otherwise.

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