Joint Press Release

Grünenthal and Mesoblast Enter Strategic Partnership for Europe and Latin America to Develop and Commercialise Innovative Cell Therapy for the Treatment of Chronic Low Back Pain

Aachen, Germany, and Melbourne, Australia, 10 September 2019 – Grünenthal, a global leader in pain management, and Mesoblast Limited (ASX: MSB; Nasdaq: MESO), a world leader in allogeneic cellular medicines for inflammatory diseases, today announced that they have entered into a strategic partnership to develop and commercialise MPC-06-ID, a Phase III allogeneic cell therapy candidate for the treatment of chronic low back pain due to degenerative disc disease in patients who have exhausted conservative treatment options. Under the partnership, Grünenthal will have exclusive commercialisation rights to MPC-06-ID for Europe and Latin America.

Mesoblast will receive up to US$150 million in upfront and milestone payments prior to product launch, as well as further commercialisation milestone payments. These payments include commitments up to US$45 million within the first year comprising US$15 million on signing, US$20 million on receiving regulatory approval to begin a confirmatory Phase III trial in Europe, and US$10 million on certain clinical and manufacturing outcomes. Cumulative milestone payments could exceed US$1 billion depending on the final outcome of Phase III studies and patient adoption. Mesoblast will also receive tiered double digit royalties on product sales.

Mesoblast is completing a Phase III trial for MPC-06-ID in the U.S. which will read out in 2020. In a previous U.S. Phase II trial, Mesoblast demonstrated that a single intra-discal injection of MPC-06-ID using a unit dose of 6 million allogeneic mesenchymal precursor cells (MPCs) resulted in meaningful and durable improvements for patients in pain intensity and functionality for at least three years[1].

Grünenthal and Mesoblast have agreed on an overall development plan for MPC-06-ID to meet European regulatory requirements. As part of this plan, the companies will collaborate on the study design for a confirmatory Phase III trial in Europe. The results of the two Phase III trials are expected to support both U.S. FDA and European EMA regulatory approvals for MPC-06-ID in chronic low back pain due to degenerative disc disease.

[1] https://www.mesoblast.com/product-candidates/spine-orthopedic-disorders/chronic-discogenic-low-back-pain; https://www.mesoblast.com/clinical-trial-results/mpc-06-id-phase-2

Joint Press Release

Grünenthal's CEO Gabriel Baertschi said: "This is an exciting day for Grünenthal. Cell-based therapies offer a novel approach in pain management. They can potentially deliver meaningful lasting improvements to patients beyond symptomatic treatment by maintaining or even restoring physiological function. By teaming up with Mesoblast for the next generation of pain therapies for chronic low back pain due to degenerative disc disease, we are diligently executing our strategy: leveraging promising new therapeutic modalities and addressing patients with high unmet medical needs. This is an important next step in working towards our vision of a world free of pain."

Mesoblast Chief Executive Dr Silviu Itescu stated: "We are very pleased to enter into this strategic partnership with Grünenthal, a world leader in innovative approaches to pain management. Together with Grünenthal we plan to bring an important new class of therapy for pain management to the many patients suffering with degenerative disc disease. This partnership is in line with our corporate strategy to team up with best in category commercial leaders to maximise market access for our innovative cellular medicines for the treatment of patients suffering from debilitating or life-threatening inflammatory conditions."

MPCs have generated great interest in clinical science and medicine due to their immunomodulatory effects and their role in tissue repair and regeneration. These cells have been shown to be effective in reducing inflammation and promoting the regeneration of host tissues through cell-to-cell interactions and secretion of a wide range of endogenous analgesic and anti-inflammatory molecules[2,3]. Furthermore, in degenerative disc disease, these cells could contribute to regenerating physiological disc tissue by promoting the proliferation of host chondrocytes and their secretion of tissue matrix components[4]. Among key characteristics of MPCs are their capacity for significant expansion in culture and their relative lack of immunogenicity. These properties facilitate their use as allogeneic, or "off-the-shelf", therapeutics with well-defined release criteria and batch-to-batch reproducibility that meet stringent regulatory requirements.

[2] Chen et al. J Clin Invest. 2015 Aug;125(8):3226-4
[3] Lantero A et al. J Neurosci. 2014 Apr;34(15):5385-95
[4] Sharma RR et al. Transfusion. 2014 May;54(5):1418-37

Joint Press Release

About Chronic Low Back Pain due to Degenerative Disc Disease (CLBP)

Over 7 million patients in Europe are thought to suffer from CLBP caused by degenerative disc disease[5,6,7,8], a disease which involves inflammation and degeneration of the intervertebral discs due to various factors like age, trauma or genetic pre-disposition. The lack of 'cushioning' as one of the major physiological functions of the disc in turn can result in spinal instability, mechanical stress and bony changes of the spine which finally cause significant pain and loss of function[9]. In addition, the inflammation of the disc can cause severe pain, which is poorly responsive to systemic pain treatment[10]. Most existing therapies do not address the underlying mechanisms of these changes and provide limited symptomatic relief. Patients would typically suffer for several years already at a relatively young age, without being able to sufficiently address their pain[11]. Invasive therapies, including surgeries like spinal fusion, are sometimes a last resort for these patients, however, the limited evidence of their long-term effects remains a matter of concern[12]. If clinical trial results from Phase II are confirmed, MPC-06-ID could offer a new treatment option to patients otherwise considered unresponsive to conservative therapy, which can provide relief for at least 3 years and aims to retain the natural function and anatomy of the disc. MPCs offer the possibility to support and promote the existing regenerative potential inherent in host tissues and are expected to deliver superior long term outcomes compared to purely symptomatic treatments[13].

About Grünenthal

Grünenthal is a global leader in pain management and related diseases. As a science-based, privately-owned pharmaceutical company, we have a long track record of bringing innovative treatments and state-of-the-art technologies to patients worldwide. Our purpose is to change lives for the better – and innovation is our passion. We are focusing all of our activities and efforts on working towards our vision of a world free of pain. Grünenthal is headquartered in Aachen, Germany, and has affiliates in 30 countries across Europe, Latin America and the US. Our products are available in more than 100 countries. In 2018 Grünenthal employed around 4,900 people and achieved sales of € 1.3 bn.

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[5] Andersson GBJ. Epidemiological features of chronic low-back pain. Lancet 1999; 354: 581-85
[6] Freburger et al. The Rising Prevalence of Chronic Low Back Pain. Arch Intern Med 2009; 169 (3): 251-258
[7] Malanga G et al. Epidemiology In: Cole & Herring eds. The Low Back Pain Handbook: A Guide for the Practicing Clinician. 2nd ed. Philadelphia, Pa.: Hanley and Belfus, 2003: 1-7
[8] DePalma MJ et al. What is the source of chronic low back pain and does age play a role? Pain Med 2011; 12:224-233
[9] Rider SM et al. Spine Surg Relat Res. 2018 Apr;3(1):1-11
[10] Nguyen QT et al. ACS Biomater Sci Eng. 2017 Nov
[11] Grünenthal internal data on file
[12] Gibson AJN, Waddell G. Spine 2005; 30: 2312– 2320
[13] Fernandez-Moure J, et al. SAGE Open Med. 2018 Mar;6:2050312118761674

Joint Press Release

About Mesoblast

Mesoblast Limited (ASX: MSB; Nasdaq: MESO) is a world leader in developing allogeneic (off-the-shelf) cellular medicines. The Company has leveraged its proprietary technology platform to establish a broad portfolio of late-stage product candidates with three product candidates in Phase III trials – acute graft versus host disease, chronic heart failure and chronic low back pain due to degenerative disc disease. Through a proprietary process, Mesoblast selects rare mesenchymal lineage precursor and stem cells from the bone marrow of healthy adults and creates master cell banks, which can be industrially expanded to produce thousands of doses from each donor without the need for tissue matching. Mesoblast has facilities in Melbourne, New York, Singapore and Texas and is listed on the Australian Securities Exchange (MSB) and on the Nasdaq (MESO).

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Forward-Looking Statements by Mesoblast

This announcement includes forward-looking statements that relate to future events or Mesoblast's future financial performance and involve known and unknown risks, uncertainties and other factors that may cause Mesoblast's 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. Mesoblast makes 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. Forward-looking statements include, but are not limited to, statements about the timing, progress and results of Mesoblast's preclinical and clinical studies in CLBP; Mesoblast and its collaborators' ability to advance product candidates into, enroll and successfully complete, clinical studies; the timing or likelihood of regulatory filings and approvals for CLBP; and the pricing and reimbursement of Mesoblast and its collaborators' product candidates, if approved. You should read this press release together with Mesoblast's risk factors, in Mesoblast's most recently filed reports with the SEC or on Mesoblast's 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. Mesoblast does not undertake any obligations to publicly update or revise any forward-looking statements, whether as a result of new information, future developments or otherwise.

Joint Press Release

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