

FDA AGREES TO ROLLING REVIEW OF MESOBLAST'S BIOLOGIC LICENSE APPLICATION FOR ITS CELL THERAPY IN CHILDREN WITH STEROID-REFRACTORY ACUTE GRAFT VERSUS HOST DISEASE

New York, USA; and Melbourne, Australia, April 16, 2019: Mesoblast Limited (ASX:MSB; Nasdaq:MESO), global leader in cellular medicines for inflammatory diseases, announced today that the United States Food and Drug Administration (FDA) has agreed that Mesoblast can submit on a rolling basis a Biologics License Application (BLA) for its allogeneic cellular medicine remestemcel-L in children with steroid-refractory acute Graft Versus Host Disease (SR-aGVHD).

Mesoblast will submit each module of the BLA to the FDA on a rolling basis as it is completed. The rolling process will provide opportunity for ongoing and frequent communication, and during this process the Company expects it will be able to adequately address any substantial matters raised by the FDA.

Mesoblast has previously received Fast Track designation from the FDA for remestemcel-L in SR-aGVHD and is eligible for priority review once the BLA filing is completed and accepted by the FDA. Mesoblast expects to submit the first module shortly.

About Steroid-refractory Acute Graft Versus Host Disease

SR-aGVHD is a life-threatening complication of a bone marrow transplant in patients primarily being treated for blood cancers. There are more than 30,000 allogeneic bone marrow transplants performed globally, with a total of over 20,000 in the United States and the EU5 annually. Approximately 20% occur in children. Currently, there are no approved products for SR-aGVHD in children outside Japan, where Mesoblast licensee JCR Pharmaceuticals markets TEMCELL^{®1} HS Inj. for both children and adults with aGVHD.

About Mesoblast

Mesoblast Limited (ASX:MSB; Nasdaq:MESO) has leveraged its proprietary immunomodulatory cellular technology platform to establish a broad portfolio of late-stage allogeneic (off-the-shelf) product candidates with three product candidates in Phase 3 trials – acute graft versus host disease, chronic heart failure and chronic low back pain due to degenerative disc disease. Mesoblast has developed proprietary cell manufacturing processes, including use of immunoselection, master cell banks, industrialized culture expansion, potency assays, and stringent lot release criteria, to enable large-scale production of cellular therapies that can be used with off-the-shelf logistics from a single donor to thousands of unrelated recipients. Mesoblast has facilities in Melbourne, New York, Singapore and Texas and is listed on the Australian Securities Exchange (MSB) and on the Nasdaq (MESO).

www.mesoblast.com

1. TEMCELL[®] HS Inj. is a registered trademark of JCR Pharmaceuticals Co. Ltd.

Forward-Looking Statements

This announcement 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. Forward-looking statements include, but are not limited to, statements about the timing, progress and results of Mesoblast's preclinical and clinical studies; Mesoblast's ability to advance product candidates into, enroll and successfully complete, clinical

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studies; the timing or likelihood of regulatory filings and approvals; and the pricing and reimbursement of Mesoblast's product candidates, if approved. 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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