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MESOBLAST STRENGTHENS KEY UNITED STATES PATENT PORTFOLIO FOR THE TREATMENT OF RHEUMATIC DISEASES

New York, USA, and Melbourne, Australia; August 17, 2016: Mesoblast Limited (ASX:MSB; Nasdaq:MESO) today announced that its intellectual property portfolio covering the use of its Mesenchymal Precursor Cells (MPCs) in the treatment of rheumatic diseases, including rheumatoid arthritis (RA), has been strengthened by the granting of a key patent by the United States Patent and Trademark Office (USPTO).

The Company's patent estate in the US for the treatment of RA and related conditions comprises the newly and recently granted patents, US 9,381,216 and US 9,265,796, which cover treatment of rheumatic diseases by administration of STRO-1 positive MPCs. Together with patents covering MPC compositions-of-matter, US 7,122,178 and US 8,367,405, these granted patents provide Mesoblast with commercial rights in the US through to July 4, 2032 for the use of MPCs in the treatment of various rheumatic diseases, including rheumatoid arthritis, psoriatic arthritis, osteoarthritis, ankylosing spondylitis, sacroiliitis, and arthritis associated with inflammatory bowel disease (enteric arthritis and Reiter's syndrome).

Additionally, the granted claims cover the use of these cell populations to reduce levels of inflammatory cytokines TNF-alpha, interleukin-6, and interleukin-17, all established mediators of inflammatory arthritis in rheumatic diseases. Further patent term extension may occur along with regulatory exclusivity extensions.

About Mesoblast's Phase 2 Trial In Rheumatoid Arthritis

Biologic refractory RA patients who have received prior anti-TNF or other biologic agents continue to have active inflammatory pathways, and the broad, concomitant targeting of multiple cytokine networks by MPCs may result in clinically meaningful outcomes in this patient group.

As recently announced, results of Mesoblast's 48-patient randomized, placebo-controlled Phase 2 trial in biologic refractory RA showed that a single intravenous infusion of its proprietary allogeneic MPC product candidate, MPC-300-IV, was well tolerated, without serious adverse events, and demonstrated a dose-related improvement in clinical symptoms, physical function, and disease activity relative to placebo through the 12 week primary endpoint.

Dr Allan Gibofsky, Professor of Medicine and Public Health at Weill Cornell Medical College and Attending Rheumatologist at Hospital for Special Surgery in New York, stated: "The trial used standardized parameters consistent with United States Food and Drug Administration (FDA) guidance for RA product development. Importantly, there was consistency observed in the dose-related responses for clinical symptoms, physical function and disease activity parameters at 12 weeks in line with the trial's pre-specified efficacy endpoints."

The primary objective of the study was to evaluate safety and tolerability of a single intravenous MPC infusion in biologic refractory RA patients through a 12 week primary endpoint. Additional objectives were to evaluate pre-specified clinical efficacy endpoints at the primary 12 week timepoint, as well as to assess the onset and time course of effect within the first 12 weeks and subsequent durability of effects and safety profile through the full 52 week study. The American College of Rheumatology (ACR) response, a validated measure of clinical symptoms and signs, and DAS28, a validated measure of disease activity, were assessed at baseline and weeks 1, 4, 8 and 12. The health assessment questionnaire disability index (HAQ-DI), a validated measure of function, was assessed at baseline and weeks 4 and 12.

All analyses and test methods for the trial's efficacy endpoints were pre-specified in the trial's Statistical Analysis Plan (SAP), including a pre-specified analysis on the key subgroup based on 1-2 prior biologics. No post hoc analyses were conducted.

Mesoblast Limited
ABN 68 109 431 870
www.mesoblast.com

Corporate Headquarters
Level 38
55 Collins Street
Melbourne 3000
Victoria Australia
T +61 3 9639 6036
F +61 3 9639 6030

United States Operations
505 Fifth Avenue
Third Floor
New York, NY 10017
USA
T +1 212 880 2060
F +1 212 880 2061

Asia
20 Biopolis Way
#05-01 Centros
Biopreneur 3
SINGAPORE 138668
T +65 6570 0635
F +65 6570 0176

The SAP was submitted to the FDA before any analyses were conducted. The SAP specifically stated that no adjustments for multiple testing (multiplicity) would be applied because the efficacy analyses in this study were exploratory and the trial was not powered for efficacy. For continuous variables where changes from baseline were reported, the Least Squares of the Mean (ANCOVA) was utilized in order to adjust for baseline differences between groups.

About MPC Mechanisms of Action in Rheumatoid Arthritis

There are at least two mechanisms of action (MOA) by which MPC-300-IV may impact on clinical outcomes in rheumatoid arthritis through concomitant inhibition of multiple cytokine networks:

1. Immunomodulation: Pro-inflammatory monocytes/macrophages and activated T cells are involved in the pathogenesis of RA via joint inflammation and secretion of multiple proinflammatory cytokines. In preclinical studies, activation of MPCs by these pro-inflammatory cytokines through specific surface receptors results in release by MPCs of anti-inflammatory mediators including PGE2 and IDO which act on inflammatory target cells. Allogeneic human MPCs secreting PGE2 and IDO, when co-cultured with donor immune cells, switch proinflammatory monocytes producing TNF-alpha or IL-6 to an anti-inflammatory phenotype producing IL-10, and switch pro-inflammatory T cells producing IL-17 to anti-inflammatory FoxP3 Tregs producing IL-10.

2. Synoviocyte Inhibition: Pro-inflammatory synoviocytes in the RA joint proliferate highly and secrete multiple cytokines involved in RA disease pathogenesis. The biomolecules PGE2 and TGF-beta, secreted by MPCs following cell surface signalling by inflammatory cytokines, act directly on RA synoviocytes to inhibit the pleiotropic signalling molecule NFkappaB, resulting in reduced synoviocyte proliferation and decreased production by the synoviocytes of the pro-inflammatory factors TNF-alpha, IL-1, IL-6, IL-8, MCP-1, and various metalloproteinases involved in joint inflammation and destructive pathology.

In large animal studies, a single intravenous infusion of Mesoblast's allogeneic MPCs resulted in concomitant inhibition of TNF-alpha, IL-6 and IL-17 inflammatory pathways in the inflamed joints, and substantially ameliorated clinical disease.

As noted above, Mesoblast's granted patents cover reduction in the levels of inflammatory cytokines such as TNF-alpha, interleukin-6, and interleukin-17, all established mediators of inflammatory arthritis in rheumatic diseases.

About RA

RA is a chronic autoimmune disease of unknown etiology, affecting approximately one percent of the global population. The disease is attributed to chronic inflammation affecting the synovial membrane of multiple joints, which eventually leads to cartilage and bone destruction. The health-related quality of life in patients with RA is significantly impaired by pain, fatigue, and decline in musculoskeletal function. RA is associated with an increased risk of cardiovascular disease and mortality.

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.

For further information, please contact:

Schond Greenway
Investor Relations
Mesoblast
T: +1 212 880-2060
E: schond.greenway@mesoblast.com

Julie Meldrum
Corporate Communications
Mesoblast
T: +61 3 9639 6036
E: julie.meldrum@mesoblast.com