



PRESS RELEASE

NEW RESEARCH PUBLISHED IN *TOXICOLOGY IN VITRO* PROVIDES INSIGHT INTO THE HEPATOTOXICITY OF DHODH INHIBITORS SUGGESTING ASLAN003 HAS THE POTENTIAL TO BE BEST-IN-CLASS

- New research shows ASLAN003 to have the lowest potential for hepatotoxicity of the compounds tested despite being one of the most potent DHODH inhibitors
- Data differentiates ASLAN003 from first generation DHODH inhibitors and other drugs in the class, supporting its potential to be best-in-class DHODH inhibitor for the treatment of autoimmune diseases

Singapore, 26 January 2021 – ASLAN Pharmaceuticals (Nasdaq:ASLN), a clinical-stage immunology focused biopharmaceutical company developing innovative treatments to transform the lives of patients, today announced that new data from a study conducted by University of Liverpool, UK, published in the *Toxicology in Vitro Journal*, demonstrates that, out of a panel of six dihydroorotate dehydrogenase (DHODH) inhibitors tested, ASLAN003 has the lowest potential for hepatotoxicity despite being one of the most potent inhibitors of DHODH.

Drug-induced liver injury (DILI) is a major driver of both pre- and post-market drug attrition, often hampering the development of therapeutically applicable compounds. Safety concerns around the use of first generation DHODH inhibitors (*leflunomide* and *teriflunomide*) have arisen in recent years and the US Food and Drug Administration has issued black-box warnings for hepatotoxicity.

Scientists at the University of Liverpool, a world leading centre for hepatotoxicity, undertook a study to evaluate the hepatotoxic potential of a panel of six DHODH inhibitors in two readily available hepatic *in vitro* models. In one model, ASLAN003 was shown to be the least toxic compound tested despite being one of the most potent DHODH inhibitors, while *teriflunomide* and *leflunomide* were equally the most toxic compounds tested. The data further demonstrate that the activity of ASLAN003 is mechanistically distinct from the hepatotoxicity associated with *leflunomide* and *teriflunomide*, and is consistent with the observation that ASLAN003 has been well tolerated in clinical trials to date. Taken together these data suggest that the toxicities observed in the study may not be related to the potency of the compound against DHODH and confirm that ASLAN003 has the potential to be best-in-class for the treatment of autoimmune diseases.

In preclinical studies, ASLAN003 has been shown to be efficacious in various animal models of autoimmune diseases. ASLAN is finalising its clinical development plan for ASLAN003 in autoimmune disease and the company expects to share further details in early 2021.

The publication, titled '*Investigating Dihydroorotate Dehydrogenase Inhibitor Mediated Mitochondrial Dysfunction in Hepatic in vitro Models*', is available to view at: <https://doi.org/10.1016/j.tiv.2021.105096>

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Media and IR contacts

Emma Thompson

Spurwing Communications

Tel: +65 6751 2021

Email: ASLAN@spurwingcomms.com

Robert Uhl

Westwicke Partners

Tel: +1 858 356 5932

Email: robert.uhl@westwicke.com

About ASLAN Pharmaceuticals

ASLAN Pharmaceuticals (Nasdaq:ASLN) is a clinical-stage immunology focused biopharmaceutical company developing innovative treatments to transform the lives of patients. Led by a senior management team with extensive experience in global development and commercialisation, ASLAN has a clinical portfolio comprised of a first-in-class monoclonal therapy, ASLAN004, that is being developed in atopic dermatitis and other immunology indications, and ASLAN003, which it plans to develop for autoimmune disease. For additional information please visit www.aslanpharma.com.

Forward looking statements

This release contains forward-looking statements. These statements are based on the current beliefs and expectations of the management of ASLAN Pharmaceuticals Limited and/or its affiliates (the "Company"). These forward-looking statements may include, but are not limited to, statements regarding the Company's business strategy, the Company's plans to develop and commercialise ASLAN004, the safety and efficacy of ASLAN004, and the Company's plans and expected timing with respect to enrolment in its clinical trials for ASLAN004 and clinical study results for ASLAN004. The Company's estimates, projections and other forward-looking statements are based on management's current assumptions and expectations of future events and trends, which affect or may affect the Company's business, strategy, operations or financial performance, and inherently involve significant known and unknown risks and uncertainties. Actual results and the timing of events could differ materially from those anticipated in such forward-looking statements as a result of these risks and uncertainties, which include, without limitation the risk factors described in the Company's U.S. Securities and Exchange Commission filings and reports (Commission File No. 001-38475), including the Company's Form 20-F filed with the U.S. Securities and Exchange Commission (the "SEC") on April 16, 2020.

All statements other than statements of historical fact are forward-looking statements. The words "believe," "may," "might," "could," "will," "aim," "estimate," "continue," "anticipate," "intend," "expect," "plan," or the negative of those terms, and similar expressions that convey uncertainty of future events or outcomes are intended to identify estimates, projections and other forward-looking statements. Estimates, projections and other forward-looking statements speak only as of the date they were made, and, except to the extent required by law, the Company undertakes no obligation to update or review any estimate, projection or forward-looking statement.