BioSpectrum
the business of Bio & Health Sciences
ASIA EDITION

ASLAN to develop next-gen DHODH inhibitor in autoimmune conditions

October 16, 2020 | News

ASLAN believes ASLAN003 has the potential to be the most potent oral inhibitor of DHODH currently in development for autoimmune disease, more than 30 times more potent at inhibiting the DHODH enzyme than teriflunomide



ASLAN Pharmaceuticals, clinical-stage immunology focused biopharmaceutical company developing innovative treatments to transform the lives of patients, announced on 16 Oct 2020 that it plans to develop ASLAN003, its next-generation inhibitor of dihydroorotate dehydrogenase (DHODH), in autoimmune conditions, such as multiple sclerosis (MS).

ASLAN003 is a highly selective and potent inhibitor of human DHODH (IC_{50} = 35 nM) and has been shown to be more than 30 times more potent at inhibiting the DHODH enzyme in cell free and cell-based assays than the first generation inhibitor *teriflunomide*. In preclinical studies, ASLAN003 was shown to be efficacious in animal models of MS and other autoimmune diseases. Based on the specificity, potency and favourable safety profile identified in earlier clinical studies, ASLAN believes ASLAN003 is a promising candidate for development in these diseases, where a pressing need for differentiated and convenient treatment options exists.

Inhibition of DHODH is an established mechanism for the treatment of autoimmune conditions, notably relapsing-remitting multiple sclerosis (RRMS). First generation DHODH inhibitors have limited efficacy and, like many other treatment options for RRMS, have associated toxicities requiring safety monitoring that make them less suited as long term treatment options. ASLAN003 has been shown to be well tolerated at doses up to 400 mg/day in 119 subjects across Phase 1 and Phase 2 clinical studies and is suitable for once-daily oral dosing.