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Herbal A ameliorates experimental autoimmune encephalomyelitis by suppressing T cell and macrophage

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Multiple sclerosis (MS) is a neuroinflammatory disease of the central nervous system (CNS) without effective treatment or medication so far. Current medication cannot fundamentally alter the progressive disease course or reverse of existing deficits and long-term disability in MS patients. Herbal A, a kind of Traditional Chinese Medicine (TCM), has been widely used for the treatment of immune system diseases in clinical application and has a better therapeutic effect. However, the relevant report about Herbal A as a therapy for MS is rare. In this study, we demonstrated that Herbal A treatment effectively ameliorated clinical disease severity with reduced spinal cord inflammation and demyelination in experimental autoimmune encephalomyelitis (EAE), a laboratory murine model of MS. Furthermore, the underlying mechanism of herbal A-induced effects was also investigated. Herbal A treatment alleviated encephalitogenic T cells and activated macrophages infiltrating into CNS through JanusKinase/Signal Transducer and Activator of Transcription (Jak/STAT) and Nuclear factor- κ B (NF- κ B) signaling pathways as well as reduction of reactive free radicals. Together, these results indicate that herbal A exerts potent anti-inflammatory effects through selective modulation of T cells and macrophages by targeting critical signaling pathways, which could be a promising therapeutic agent for the treatment of neuroinflammatory diseases.

Biography

Wenting Li has her expertise in isolation, identification and characterization of bioactive compounds in Traditional Chinese Medicine (TCM). She also focuses on evaluating bioactivities of chemical compounds, especially in the aspect of autoimmune disease..

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