

3<sup>rd</sup> International Conference on**CENTRAL NERVOUS SYSTEM DISORDERS AND THERAPEUTICS**

October 02-03, 2017 Vienna, Austria

**Cucurbitacin B mitigates experimental autoimmune encephalomyelitis by inhibition of IL-17/IL-23 immune axis****Nima Sanadgol**

University of Zabol, Iran

Pharmacological approaches to inhibit brain acute inflammation may represent important strategies for the control of autoimmune diseases. Multiple sclerosis (MS) is a chronic, inflammatory, demyelinating and autoimmune disease of the central nervous system (CNS). Cucurbitacin B (CuB), an oxygenated tetracyclic triterpenoid compound extracted from Cucurbitaceae plant species, is a bioactive agent by disruption of microtubule polymerization and inhibition of JAK/STAT signaling. However, there has been little information about impact of CuB on MS treatment. In this research, for the first time we examine effects of CuB (specific STAT3 blocker), in experimental autoimmune encephalomyelitis (EAE) mouse model of MS. EAE was induced by subcutaneous immunization of MOG35-55 in 8-week-old C57BL/6 mice. CuB was administered at different doses (0.25, 0.5 and 1 mg/kg body weight/day/i.p) from the first day of the experiment. Inflammatory responses were examined using qRT-PCR, western blot and immunohistochemistry (IHC) analysis of specific markers such as p-STAT3, IL-17A, IL-23A, CD11b and CD45. CuB reduced STAT3 activation, leukocyte trafficking, and also IL-17/IL-23 immune axis in this model. Treated mice with lower doses of CuB exhibited a considerable depletion in the EAE clinical score which correlated with decreased expression of IL-17, IL-23 and infiltration of CD11b+ and CD45+ cells into the CNS. Our in vivo results suggest that STAT3 inhibition by CuB will be an effective and new approach for the treatment of neuro-inflammatory disease such as MS.

Sanadgol.n@gmail.com