

SOCS1

Suppressor of cytokine signaling 1 (SOCS1).

Microglial activation is involved in a variety of neurological disorders, and overactivated microglial cells can secrete large amount of proinflammatory factors and induce neuron death. Therefore, reducing microglial activation is believed to be useful in treating the disorders. In this study, we used 10 ng/ml lipopolysaccharide plus 10 U/ml interferon γ (LPS/IFN γ) to induce N9 microglial activation and explored **resveratrol**- (RSV-) induced effects on microglial activation and the underlying mechanism.

Zhang et al. found that LPS/IFN γ exposure for 24 h increased inducible nitric oxide synthase (iNOS) and nuclear factor κ B (NF- κ B) p65 subunit expressions in the cells and enhanced tumor necrosis factor α (TNF- α) and interleukin 1 β (IL-1 β) releases from the cells. RSV of 25 μ M reduced the iNOS and NF- κ B p65 subunit expressions and the proinflammatory factors' releases; the knockdown of silent information regulator factor 2-related enzyme 1 (SIRT1) or suppressor of cytokine signaling 1 (SOCS1) by using the small interfering RNA, however, significantly abolished the RSV-induced effects on iNOS and NF- κ B p65 subunit expressions and the proinflammatory factors' releases. These findings showed that microglial SIRT1-SOCS1 pathway may mediate the RSV-induced inhibition of microglial activation in the LPS/IFN γ -treated N9 microglia ¹⁾.

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Zhang S, Gao L, Liu X, Lu T, Xie C, Jia J. Resveratrol Attenuates Microglial Activation via SIRT1-SOCS1 Pathway. Evid Based Complement Alternat Med. 2017;2017:8791832. doi: 10.1155/2017/8791832. Epub 2017 Jul 11. PubMed PMID: 28781601; PubMed Central PMCID: PMC5525071.

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