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Poster Presentation

Targeting NF-Kb Signaling Pathway as Potential Therapeutic with Curcumin in Treatment of Multiple Sclerosis

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Abstract

Curcumin is active component of turmeric and isolated from the rhizome of turmeric, a phenolic natural product. One of inflammatory disease is multiple sclerosis, a multifocal chronic autoimmune inflammatory disease of the CNS, which is also known as a perivascular demyelinating disease. Studies have been shown that neuro-inflammation can have both harmful and beneficial effects on the neuronal and glial cells function, transcription factor nuclear factor-kappa B(NF-κB) has a determinant role in controlling this process. The involvement of NF-κB signaling pathway in multiple sclerosis has been suggested by genome-wide association studies. Selective anti-NF-κB therapeutic strategies could be beneficial for minimizing damages during acute and chronic inflammation. Genes that can be induced by NF-κB signaling include those that encode important molecules such as TNF-α, IL-1, IL-6, SOD, Bcl-2, and inhibitors of apoptosis proteins. Curcumin, have been shown exhibit anti-inflammatory and anti-mutagenic in addition to anti-carcinogenic activity. Downregulation expression of the NF-κB-regulated gene products such as COX-2, TNF, 5-LOX, IL-1, IL-6 and others, inhibition multiple pro-inflammatory pathways.

Keywords: Curcumin, NF-κB, MS, CNS

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