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Nutraceutical importance of phytochemicals obtained from *Curcuma Longa* L. and their biological activity

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Curcuma longa is used as a spice, coloring matter, and preservative and has wide range of medicinal and pharmacological activities. It exhibits anti-inflammatory, antioxidant, anti-bacterial, anti-parasitic, nematocidal, anti-human immunodeficiency virus, antispasmodic, anti-malarial, and anti-carcinogenic activities. It is a potent scavenger of a variety of reactive oxygen species (ROS) including superoxide anion, hydroxyl radical, singlet oxygen, peroxynitrite and nitric oxide. It is an inhibitor of ROS generating enzymes cyclooxygenase and lipoxygenase and plays active role in the inhibition of COX-I and COX-II enzymes that involve in the inflammatory reaction. The turmeric extracts protect red blood cells, haemoglobin, lipids from lipid peroxidation induced by hydrogen peroxides. Safety evaluation studies indicate that the turmeric is well tolerated at a very high dose without any toxic effects. Curcumin is one of its major components responsible for its various biological actions. Pure curcumin has more potent superoxide anion scavenging activity than demethoxycurcumin and bisdemethoxycurcumin, the other two components. Curcumin acts as a pro-oxidant in the presence of transition metal ions (copper and iron) and is a potent bioprotectant with a potentially wide range of therapeutic applications.

Biography

Ravendra P.S. Chauhan has completed Master of Science (Biotechnology) from Amity University Uttar Pradesh, Noida, India. Currently, he is working as a Project Assistant in Amity Institute for Herbal Research and Studies at Amity University Uttar Pradesh, Noida. He has communicated 2 research papers in reputed journals.

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