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Multifunction of saffron and its component

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We confirmed that crocin prevented N-SMase activation, ceramide production and JNK phosphorylation. Exploration of the crocin's preventive mechanism in oxidative stress-induced cell death revealed that the activities of GSH reductase. These results strongly support the importance of the proposed GSH-dependent inhibitory mechanism in oxidative stress-mediated cell death. The effects of saffron extract and crocin on improving ethanol-induced impairment of learning behaviors of mice in passive avoidance tasks has been reported. Based on these results, it became evident that saffron extract and crocin prevent the inhibitory effect of ethanol on Long-Term Potentiation (LTP) in the dentate gyrus *in vivo*. We examined the sleep-promoting activity of crocin by monitoring the locomotor activity and electroencephalogram after administration of crocin to mice. Crocin (30 and 100 mg/kg) increased the total time of non-REM sleep by 60 and 170%, respectively, during a 4-h period from 20:00 to 24:00 after its intraperitoneal administration at a lights-off time on 20:00. Furthermore, the anti-cancer activities against colon cancer cell lines, skin and colon cancers in mice are also discussed.

Biography

Yukihiro Shoyama worked in MGH in Boston as a Post-doc in 1975. During 1978 to 1991, he worked as an Associate Professor and as a Full Professor during 1991 to 2007 in Kyushu University. During these periods he was the Director of Pharmacognosy Department, the Director of Herbal Garden, and held Deanship (2004-2006). He moved to Faculty of Pharmaceutical Sciences, Nagasaki International University as a Full Professor from 2007. He was the President of Japanese Society of Pharmacognosy (2007-2008) and Vice Chairperson of Specialty Committee of Traditional Chinese Medicine, Pharmaceutical Chemistry of World Federation of Chinese Medicine Societies (2012-2020). His research interests are marijuana studies like structure elucidation of biosynthetic enzyme protein by x-ray analysis, monoclonal antibodies against over 40 natural bioactive products, biotechnology of medicinal plants and bioactive natural products like saffron resulting in approximately 400 original papers and over 200 review articles.

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