



Applications of Crocetin

Saffron, a spice and a food colorant present in the dry stigmas of the plant *Crocus sativus* L., has been used as an herbal remedy for various ailments including cancer by the ancient Arabian, Indian and Chinese cultures. Crocetin, an important commercially available carotenoid constituent of saffron. It is a little soluble in aqueous solution and is fully soluble in organic bases, such as pyridine. Crocetin showed significant potential as an anti-tumor agent in animal models and cell culture systems. Crocetin affects the growth of cancer cells by inhibiting nucleic acid synthesis, enhancing anti-oxidative system, inducing apoptosis and hindering growth factor signaling pathways.¹

Crocetin have demonstrated significant anticancer activity in pancreatic, breast, colorectal, leukemic, lung, and skin cells. It has an inhibitory effect on intracellular nucleic acid and protein synthesis in malignant cells.¹

Crocetin has anti-convulsive properties. It is also believed to stimulate oxygen diffusivity during shock and reperfusion.¹

Crocetin has anti-inflammatory properties, thus decreasing the risks of arthritis.² It also has antioxidant properties, which could be responsible for inhibition of tumor formation.¹

Crocetin is good for the cardiovascular system. It prevents coronary heart disease by inhibiting lipoprotein oxidation.¹ crocetin helps to reduce cholesterol level in the blood and severity of atherosclerosis, thus reducing the chances of heart attacks.³

Crocetin is good for the ocular system. It promotes retinal activity by increasing retinal blood flow.¹

¹ [William G. Gutheil](#), [Gregory Reed](#), [Amitabha Ray](#), and [Animesh Dhar](#) . “Crocetin: an agent derived from saffron for prevention and therapy for cancer”

² inhibitory effect of *Crocus sativus* L. ethanol extract on adjuvant-induced arthritis
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³ Cardiovascular Effects of Saffron: An Evidence-Based Review
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Crocetin is good for the nervous system. It inhibits the development of neurodegenerative diseases.¹ Antiparkinsonian effect of Crocetin may be helpful in preventing Parkinsonism.⁴



⁴ Biological Properties and Medicinal Use of Saffron (*Crocus sativus* L.) F. Abdullaev Laboratorio de Oncología Experimental Instituto Nacional de Pediatría Av del Imán # 1, Torre de Investigación 6º piso, 04530 DF, Mexico City Mexico.