



Tumeric barks and powder.

Curcumin is the yellow component of the spice turmeric. Studies show curcumin: 1) exhibits varied immunomodulatory actions;¹ 2) has potent regulating effects on inflammatory processes;² 3) is a strong antioxidant that enhances cellular resistance to oxidative damage;³ 4) promotes increased glutathione levels,⁴ which improves the body's natural antioxidant shield and increases the efficiency of multiple detoxification processes; 5) has liver-protective benefits;⁵ 6) specifically protects the gastrointestinal tract.^{6,7} and 7) supports emotional health, with benefit being enhanced by taking curcumin and piperine (also contained in TF A.I.M. as Bioperine™) at the same time.⁸

¹ **Immunomodulatory activity of curcumin: suppression of lymphocyte proliferation, development of cell-mediated cytotoxicity, and cytokine production in vitro.** Gao X, Kuo J, Jiang H, et al. *Biochem Pharmacol.* 2004 Jul 1;68(1):51-61.

<http://www.ncbi.nlm.nih.gov/pubmed/15183117>

² **Pharmacological basis for the role of curcumin in chronic diseases: an age-old spice with modern targets.** Aggarwal BB, Sung B.

Trends Pharmacol Sci. 2009 Feb;30(2):85-94. <http://www.ncbi.nlm.nih.gov/pubmed/19110321>

³ **Curcumin, an atoxic antioxidant and natural NFkappaB, cyclooxygenase-2, lipooxygenase, and inducible nitric oxide synthase inhibitor: a shield against acute and chronic diseases.** Bengmark S. *JPEN J Parenter Enteral Nutr.* 2006 Jan-Feb;30(1):45-51.

<http://www.ncbi.nlm.nih.gov/pubmed/16387899>

⁴ **Curcumin, quercetin, and tBHQ modulate glutathione levels in astrocytes and neurons: importance of the glutamate cysteine ligase modifier subunit.** Lavoie S, Chen Y, Dalton TP, et al. *J Neurochem.* 2009 Mar;108(6):1410-22.

<http://www.ncbi.nlm.nih.gov/pubmed/19183254>

⁵ **Curcumin ameliorates acute thioacetamide-induced hepatotoxicity.** Shapiro H, Ashkenazi M, Weizman N, et al. *J Gastroenterol Hepatol.* 2006 Feb;21(2):358-66. <http://www.ncbi.nlm.nih.gov/pubmed/16509859>

⁶ **Pharmacological basis for the use of turmeric in gastrointestinal and respiratory disorders.** Gilani AH, Shah AJ, Ghayur MN, Majeed K. *Life Sci.* 2005 May 13;76(26):3089-105. <http://www.ncbi.nlm.nih.gov/pubmed/15850601>

⁷ **Curcumin inhibits neurotensin-mediated interleukin-8 production and migration of HCT116 human colon cancer cells.** Wang X, Wang Q, Ives KL, Evers BM. *Clin Cancer Res.* 2006 Sep 15;12(18):5346-55. <http://www.ncbi.nlm.nih.gov/pubmed/17000667>; Full text:

<http://clincancerres.aacrjournals.org/content/12/18/5346.long>

⁸ **Antidepressant activity of curcumin: involvement of serotonin and dopamine system.** Kulkarni SK, Bhutani MK, Bishnoi M.

Psychopharmacology (Berl). 2008 Dec;201(3):435-42. <http://www.ncbi.nlm.nih.gov/pubmed/18766332>