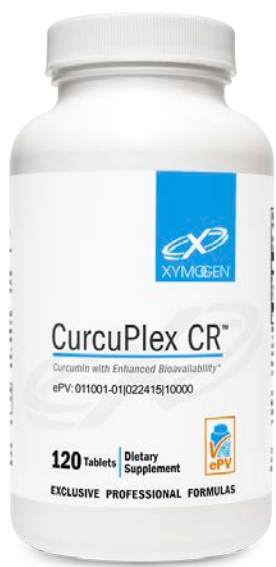


# CurcuPlex CR™

Curcumin with Enhanced Bioavailability\*



Available in 60 tablets and 120 tablets

## Discussion

The therapeutic effectiveness of curcumin is limited due to its poor absorption from the gastrointestinal (GI) tract, rapid metabolism, and rapid systemic elimination. Instead of increasing the dose, CurcuPlex CR is formulated to increase the amount of curcumin absorbed and bioavailable. It combines turmeric rhizome extract (95% curcuminoids) with BioPerine, a patented extract of piperine from black pepper fruit. BioPerine has GRAS (generally recognized as safe) status and is a clinically validated bio-absorption enhancer. It works by optimizing the body's natural thermogenic activity, thereby selectively providing a more efficient mode of nutrient transportation into the blood. Piperine improves the bioavailability of curcumin both in preclinical studies and in studies on human volunteers. At a dose of 2 g curcumin alone, serum levels were either undetectable or very low in human volunteers. But, curcumin administered with piperine produced much higher serum concentrations from 0.25 – one hour after ingestion with a 2000% increase in bioavailability.<sup>[1]</sup> In animals, co-administration with piperine significantly increased time to maximum serum concentration, while elimination half-life and clearance were significantly decreased.\*<sup>[1]</sup>

Combining BioPerine with curcumin results in *significantly increased utilization of smaller quantities* for optimal clinical outcomes. But CurcuPlex CR doesn't stop there. It also employs a patented, controlled-release delivery technology that prolongs GI transit time and increases curcumin's bioavailability up to 30% over standard delivery systems.\*

Curcumin is a phenolic phytochemical purified from turmeric (*Curcuma longa*)—an herb extensively used in both Chinese and Ayurvedic herbology to relieve a variety of complaints. Historically, turmeric has been used for its effect on smooth muscle function and its ability to improve digestion. More recently, the cell-protecting and immunomodulatory properties of curcumin have become areas of great interest to the scientific community.\*

## Clinical Applications

- » Supports Brain and Neuronal Health\*
- » Supports a Normal Immune Response\*
- » Provides Antioxidant and Cell-Protective Activity\*
- » Supports Healthy Microbial Environment\*

*CurcuPlex CR™ provides curcumin, a phenolic phytochemical obtained from turmeric (Curcuma longa). To significantly enhance curcumin's naturally poor bioavailability, XYMOGEN combined turmeric extract (95% curcuminoids) with BioPerine®, a patented black pepper extract and natural bio-enhancer, and added a time-release delivery method. The antioxidant, cell-protective, and immunomodulatory properties of curcumin have interested researchers for years.\**

**Immune Support and Antioxidant Activity** Research has demonstrated that curcumin has antioxidant activity, is an immune cell modulator, and has inhibitory effects on COX-2, iNOS enzymes, TNF- $\alpha$ , IL, and NF- $\kappa$ B<sup>[2,3]</sup>, making it applicable to a wide array of clinical presentations. Various animal and human studies support its use in promoting health in joints, gastrointestinal mucosa, and the eye's uveal tract.<sup>[2-8]</sup> Other research suggests curcumin may support balanced immune response in the nervous, cardiovascular, GI, and respiratory systems.<sup>[2,3,9]</sup> Neurological tissue is particularly susceptible to oxidative stress due to its high demand for oxygen, high levels of polyunsaturated fatty acids in neural membrane phospholipids, and low antioxidant defenses.<sup>[10]</sup> Exciting new research in the field of brain and neurological health points to the protective effects of curcumin.<sup>[10-12]</sup> Interest in curcumin in this regard is related to its oxidant/immune modulating activity and positive effect on brain amyloid plaques.<sup>[10]</sup> Typical doses in human studies ranged from 375 mg -1,200 mg curcumin per day.\*

**Cell-Protective** In animal models, curcumin has demonstrated desirable activity in promoting normal cell proliferation in many, but not all, cell lines.<sup>[2,3]</sup> Mechanisms appear to include curcumin's ability to modulate certain types of cytokines (especially transcription factor NF- $\kappa$ B), support detoxification, scavenge free radicals, and to support induction of cell cycle arrest and apoptosis.<sup>[2,3,13,14]</sup> Animal studies, and Phase I and Phase II clinical trials are encouraging; more clinical trials are needed and underway.<sup>[2]</sup> Typical doses in human studies ranged from 450 mg – 3,600 mg curcumin per day for up to four months.\*

**Healthy Microbial Environment** Curcumin has long been used to support a healthy microbial balance; this historical use has been supported by more recent in vitro studies.\*<sup>[2,3,15,16]</sup>

**CurcuPlex CR™ Supplement Facts**

Serving Size: 4 Tablets

	Amount Per Serving	%DV
Turmeric Extract ( <i>Curcuma longa</i> )(root)(95% curcuminoids)	1.4 g	**
Black Pepper Extract ( <i>Piper nigrum</i> )(fruit)(95% piperine)(BioPerine®)	14 mg	**

\*\* Daily Value not established.

**Other Ingredients:** Dicalcium phosphate dihydrate, guar gum (high viscosity), microcrystalline cellulose, hydroxypropyl methyl cellulose (high viscosity), stearic acid, silica, coating (tapioca maltodextrin, sunflower lecithin, palm oil, guar gum), and magnesium stearate.  
BioPerine is a registered trademark of Sabinsa Corp. BioPerine is protected by US patents 5,536,506; 5,744,161; 5,972,382; and 6,054,585.

**DIRECTIONS:** Take one to four tablets daily, or as directed by your healthcare practitioner.

Consult your healthcare practitioner prior to use. Individuals taking medication, especially blood thinners or cancer treatment, should discuss potential interactions with their healthcare practitioner. Do not use if tamper seal is damaged.

**DOES NOT CONTAIN:** Wheat, gluten, corn, yeast, soy, animal or dairy products, fish, shellfish, peanuts, tree nuts, egg, ingredients derived from genetically modified organisms (GMOs), artificial colors, artificial sweeteners, or artificial preservatives.

**STORAGE:** Keep closed in a cool, dry place out of reach of children.

**References**

- Shoba G, Joy D, Joseph T, et al. Influence of piperine on the pharmacokinetics of curcumin in animals and human volunteers. *Planta Med* 1998 May;64(4):353-56. [PMID: 9619120]
- Jurenka JS. Anti-inflammatory properties of curcumin, a major constituent of *Curcuma longa*: a review of preclinical and clinical research. *Altern Med Rev*. 2009 Jun;14(2):141-53. [PMID: 19594223]
- Jagetia GC, Aggarwal BB. "Spicing up" of the immune system by curcumin. *J Clin Immunol*. 2007 Jan;27(1):19-35. [PMID: 17211725]
- Ukil A, Maity S, Karmakar S, et al. Curcumin, the major component of food flavour turmeric, reduces mucosal injury in trinitrobenzene sulphonic acid-induced colitis. *Br J Pharmacol*. 2003 May;139(2):209-18. [PMID: 12770926]
- Epstein J, Docena G, MacDonald TT, et al. Curcumin suppresses p38 mitogen-activated protein kinase activation, reduces IL-1beta and matrix metalloproteinase-3 and enhances IL-10 in the mucosa of children and adults with inflammatory bowel disease. *Br J Nutr*. 2010 Mar;103(6):824-32. [PMID: 19878610]
- Funk JL, Oyarzo JN, Frye JB, et al. Turmeric extracts containing curcuminoids prevent experimental rheumatoid arthritis. *J Nat Prod*. 2006 Mar;69(3):351-55. [PMID: 16562833]
- Holt PR, Katz S, Kirshoff R. Curcumin therapy in inflammatory bowel disease: a pilot study. *Dig Dis Sci*. 2005 Nov;50(11):2191-93. [PMID: 16240238]
- Lal B, Kapoor AK, Asthana OP, et al. Efficacy of curcumin in the management of chronic anterior uveitis. *Phytother Res*. 1999 Jun;13(4):318-22. [PMID: 10404539]
- Dhillon N, Aggarwal BB, Newman RA, et al. Phase II trial of curcumin in patients with advanced pancreatic cancer. *Clin Cancer Res*. 2008 Jul;14(14):4491-99. [PMID: 18628464]
- Sun AY, Wang Q, Simonyi A, et al. Botanical phenolics and brain health. *Neuromolecular Med*. 2008;10(4):259-74. [PMID: 19191039]
- Xie L, Li XK, Takahara S. Curcumin has bright prospects for the treatment of multiple sclerosis. *Int Immunopharmacol*. 2011 Mar;11(3):323-30. [20828641]
- Mythri RB, Harish G, Dubey SK, et al. Glutamoyl diester of the dietary polyphenol curcumin offers improved protection against peroxynitrite-mediated nitrosative stress and damage of brain mitochondria in vitro: implications for Parkinson's disease. *Mol Cell Biochem*. 2011 Jan;347(1-2):135-43. [PMID: 20972609]
- Ravindran J, Prasad S, Aggarwal BB. Curcumin and cancer cells: how many ways can curry kill tumor cells selectively? *AAPS J*. 2009 Sep;11(3):495-510. [PMID: 9619120]
- Goel A, Aggarwal BB. Curcumin, the golden spice from Indian saffron, is a chemosensitizer and radiosensitizer for tumors and chemoprotector and radioprotector for normal organs. *Nutr Cancer*. 2010 Oct;62(7):919-30. [PMID: 20924967]
- Neelofar K, Shreaz S, Rimple B, et al. Curcumin as a promising anticandidal of clinical interest. *Can J Microbiol*. 2011 Mar;57(3):204-10. [PMID: 21358761]
- Martins CV, da Silva DL, Neres AT, et al. Curcumin as a promising antifungal of clinical interest. *J Antimicrob Chemother*. 2009 Feb;63(2):337-39. [PMID: 19038979]

Additional references available upon request

All XYMOGEN® Formulas Meet or Exceed cGMP Quality Standards.

\*These statements have not been evaluated by the Food and Drug Administration.  
This product is not intended to diagnose, treat, cure, or prevent any disease.

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