

# 5-HTP CR



Available in 90 tablets

- Helps to promote healthy mood balance. Can be used as a sleep aid.

## Discussion

5-hydroxytryptophan (5-HTP) is a precursor to serotonin. In the body, the essential amino acid tryptophan (when acted upon by the enzyme tryptophan hydroxylase) converts to 5-HTP. The compound is subsequently decarboxylated to serotonin, thereby elevating extracellular serum serotonin levels. Supplementing with 5-HTP bypasses the somewhat limiting conversion of tryptophan to 5-HTP.<sup>[1,2]</sup> Oral 5-HTP is well-absorbed in the intestine without the need for a transporter; other amino acids do not compete with it for absorption. It easily crosses the blood-brain barrier, is not degraded by the enzymes that degrade tryptophan, and it is excreted through the kidneys.\*<sup>[1,3]</sup>

**Mood and Comfort** Serotonin regulates many normal brain activities, increases norepinephrine and dopamine, and is important in regulating mood and behavior. Adequate levels of serotonin are associated with normal calmness and relaxation.\*<sup>[1-5]</sup>

Several studies have demonstrated that 5-HTP supports a healthy frame of mind, good energy levels, ease of movement, and restful sleep.<sup>[1,6,7]</sup> Published studies (dose~100-600 mg/day) have also demonstrated the effectiveness of 5-HTP supplementation in supporting cerebral comfort.\*<sup>[8-10]</sup>

**Appetite** Used in a high dose (i.e., 300 mg/three times a day), 5-HTP decreased food consumption and reduced weight. This result may relate to the effect of 5-HTP in supporting normal hypothalamic regulation, which includes appetite homeostasis.<sup>[11]</sup> However, nausea at this relatively high dose was a common complaint.<sup>[12,13]</sup> In other research, sublingual 5-HTP administered five times per day for eight weeks in adult overweight women significantly supported feelings of post-meal hunger satisfaction.\*<sup>[14]</sup>

**Hormones and Sleep** 5-HTP is thought to effect the HPA axis, as it has the ability to raise plasma cortisol levels, to cause transient increase in growth hormone (at 150 mg dose), and in men only, to support healthy levels of thyroid stimulating hormone.<sup>[15,16]</sup>

Serotonin is also converted to melatonin; thus, supplementation has similar effects. Support of sleep quality is likely related to 5-HTP's ability to increase the length of rapid eye movement (REM).<sup>[3,17]</sup> In children, supplementation with 5-HTP may help modulate arousal level and support peaceful sleep.\*<sup>[18]</sup>

EXCLUSIVE • PATENTED

## 5-HTP CR

### Medicinal Ingredients (per tablet)

5-HTP (5-Hydroxytryptophan)(from *Griffonia simplicifolia*)(seed) .....100 mg

### Non-Medicinal Ingredients

Dibasic calcium phosphate, hydroxypropyl cellulose, hypromellose, ascorbyl palmitate, silica. Coating ingredients: tapioca maltodextrin, sunflower lecithin, palm oil, and guar gum..

### Directions for Use:

**ADULTS: For mood balance:** Take 1 tablet three times daily with food. To minimize the risk of gastrointestinal side effects, start dosing at 50 - 100 mg, 2 - 3 times per day and slowly increase to effective dose over 2 week period. **As a sleep aid:** Take 1 - 2 tablets 30 - 45 minutes before bedtime. Use for a minimum of 1 week to see beneficial effects. Consult a healthcare practitioner for use beyond one year.

**CAUTION:** Consult a health care practitioner prior to use if you are pregnant or breastfeeding, taking carbidopa or drugs/supplements with serotonergic activity. These may include, but are not limited to, L-tryptophan, S-adenosylmethionine (SAME), St. John's wort, antidepressants, pain killers, over the counter cough and cold medication containing dextromethorphan, anti-nausea medication and anti-migraine medication. Consult a health care practitioner if symptoms persist or worsen, or if sleeplessness persists continuously for more than 4 weeks. Avoid taking with alcohol or products that cause drowsiness.

Discontinue use and consult a health care practitioner if you show signs of weakness, oral ulcers, or abdominal pain accompanied by severe muscle pain or if you experience skin changes.

Some people may experience diarrhea, nausea, vomiting and abdominal pain or drowsiness. Exercise caution if operating heavy machinery, driving a motor vehicle or involved in activities requiring mental alertness.

**Contraindication:** Do not use if you have scleroderma.

**Storage:** Keep out of reach of children. Store in a cool dry place. Do not use if tamper seal is damaged.

## References

1. Juhl JH. Fibromyalgia and the serotonin pathway. *Altern Med Rev.* 1998 Oct;3(5):367-75. [PMID: 9802912]
2. Gutknecht L, Jacob C, Strobel A, et al. Tryptophan hydroxylase-2 gene variation influences personality traits and disorders related to emotional dysregulation. *Int J Neuropsychopharmacol.* 2007 Jun;10(3):309-20. [PMID: 17176492]
3. Birdsall TC. 5-Hydroxytryptophan: a clinically-effective serotonin precursor. *Altern Med Rev.* 1998 Aug;3(4):271-80. [PMID: 9727088]
4. Agren H, Reibring L, Hartvig P, et al. Low brain uptake of L-[11C]5-hydroxytryptophan in major depression: a positron emission tomography study on patients and healthy volunteers. *Acta Psychiatr Scand.* 1991;83(6):449-55. [PMID: 1882697]
5. Zmilacher K, Battagay R, Gastpar M. L-5-hydroxytryptophan alone and in combination with a peripheral decarboxylase inhibitor in the treatment of depression. *Neuropsychobiology.* 1988;20(1):28-35. [PMID: 3265988]
6. Caruso I, Sarzi Puttini P, Cazzola M, et al. Double-blind study of 5-hydroxytryptophan versus placebo in the treatment of primary fibromyalgia syndrome. *J Int Med Res.* 1990 May-Jun;18(3):201-09. [PMID: 2193835]
7. Puttini S, Caruso I. Primary fibromyalgia syndrome and 5-hydroxy-L-tryptophan: a 90-day open study. *J Int Med Res.* 1992 Apr;20(2):182-89. [PMID: 1521674]
8. Ribeiro CA. L-5-hydroxytryptophan in the prophylaxis of chronic tension-type headache: a double-blind, randomized, placebo controlled study. *Headache.* 2000 Jun;40(6):451-56. [PMID: 10849040]
9. Nagata E, Shibata M, Hamada J, et al. Plasma 5-hydroxytryptamine (5-HT) in migraine during an attack-free period. *Headache.* 2006 Apr;46(4):592-96. [PMID: 16643553]
10. Nicolodi M, Sicuteri F. L-5-hydroxytryptophan can prevent nociceptive disorders in man. *Adv Exp Med Biol.* 1999;467:177-82. [PMID: 10721054]
11. Schott DA, Nicolai J, de Vries JE, et al. Disorder in the serotonergic system due to tryptophan hydroxylation impairment: a cause of hypothalamic syndrome? *Horm Res Paediatr.* 2010;73(1):68-73. [PMID: 20190542]
12. Cangiano C, Ceci F, Cascino A, et al. Eating behavior and adherence to dietary prescriptions in obese adult subjects treated with 5-hydroxytryptophan. *Am J Clin Nutr.* 1992 Nov;56:863-67. [PMID: 1384305]
13. Cangiano C, Laviano A, Del Ben M, et al. Effects of oral 5-hydroxy-tryptophan on energy intake and macronutrient selection in non-insulin dependent diabetic patients. *Int J Obes Relat Metab Disord.* 1998 Jul;22(7):648-54. [PMID: 9705024]
14. Rondanelli M, Klersy C, Iadarola P, et al. Satiety and amino-acid profile in overweight women after a new treatment using a natural plant extract sublingual spray formulation. *Int J Obes (Lond).* 2009 Oct;33(10):1174-82. [PMID: 19752879]
15. Lee MA, Nash JF, Barnes M, et al. Inhibitory effect of ritanserin on the 5-hydroxytryptophan-mediated cortisol, ACTH and prolactin secretion in humans. *Psychopharmacology (Berl).* 1991;103(2):258-64. [PMID: 1851310]
16. Mashchak CA, Kletzky OA, Spencer C, et al. Transient effect of L-5-hydroxytryptophan on pituitary function in men and women. *J Clin Endocrinol Metab.* 1983 Jan;56(1):170-76. [PMID:6600170]
17. Wyatt RJ, Zarcone V, Engelman K, et al. Effects of 5-hydroxytryptophan on the sleep of normal human subjects. *Electroencephalogr Clin Neurophysiol.* 1971 Jun;30(6):505-09. [PMID: 4105646]
18. Bruni O, Ferri R, Miano S, et al. L -5-hydroxytryptophan treatment of sleep terrors in children. *Eur J Pediatr.* 2004 Jul;163(7):402-07. [PMID:15146330]

Additional references available upon request

EXCLUSIVE • PATENTED



7 22537 51054 7