Discussion

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-hydroxytryptophan (5-HTP). The compound is subsequently decarboxylated to serotonin (5-HT), thereby elevating extracellular serum serotonin levels.\[1\] Supplementing with 5-HTP bypasses the somewhat limiting conversion of 5-HTP to 5-HT.

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,\[3\] is not degraded by the enzymes that degrade tryptophan,\[4\] and it is excreted through the kidneys. The 12-hour controlled-released delivery of 5HTP-SR affords convenience of dosing. There is an immediate release to boost blood levels, followed by a delayed release to steadily maintain levels. The controlled-release formulation also reduces the likelihood of common G.I. side effects.

Serotonin regulates many normal brain activities, increases norepinephrine and dopamine, and is important in regulating mood and behavior. Whereas adequate levels instill a sense of calmness and relaxation; low levels are associated with anxiety, irritability, sleep disturbance and poor mood.

Several studies have demonstrated the effectiveness of 5-HTP supplementation to reduce anxiety, pain, stiffness, fatigue and insomnia in individuals with fibromyalgia.\[5,6\] Used in a high dose, (i.e. 300 mg, three times a day) in obese subjects, this serotonin precursor decreased food consumption and reduced weight; however nausea at this relatively high dose was a common complaint.\[7,8\] Published studies (dose approx. 100-600 mg/day) have also demonstrated the effectiveness of 5-HTP supplementation upon frequency and duration of headache, including migraine, especially with migraine with aura.\[9,10\]

The pharmacologic activity of 5-HTP may be related to the effect it has upon 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 increase thyroid stimulating hormone.\[11,12\] Serotonin is also converted to melatonin; thus supplementation has similar effects. Improvement in sleep quality is likely related to 5 HTP’s ability to increase the length of rapid eye movement (REM).\[13\]

The raw materials for 5HTP-SR undergo rigorous analysis for heavy metals and microbes. Each batch undergoes an FDA-provided procedure to assure the absence of “Peak X”, the impurity known to be the cause of Eosinophilia Myalgia Syndrome (“EMS”) that led to the banning of L-Tryptophan supplements in the late 80’s.
**Supplement Facts**

**Serving Size: 1 Tablet**  
**Servings Per Container: 60**

<table>
<thead>
<tr>
<th>Amount Per Serving</th>
<th>%Daily Value</th>
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<tr>
<td>5-HTP (5-Hydroxytryptophan)</td>
<td>100 mg **</td>
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<tr>
<td>(derived from <em>Griffonia simplicifolia</em> (seed))</td>
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**Other Ingredients:** Cellulose, dibasic calcium phosphate, hypromellose, silica, stearic acid, magnesium stearate, methylcellulose and glycerin.

**References**

14. 5-HTP. www.naturalstandard.com [accessed 6.09.09]

**Cautions**

Consult your licensed healthcare practitioner prior to use if you have or suspect you have a medical condition or are taking prescription drugs including drugs for depression, migraine, Parkinson’s Disease, or psychiatric disorders. Do not use with other supplements containing L tryptophan or 5 HTP or certain other dietary supplements such as St. John’s Wort, SAMe and Hawaiian woodrose. Do not use if you are pregnant, lactating or under the age of 18. There are to date, no reported cases of Serotonin Syndrome due to overdose of 5-HTP, despite the theoretical possibility.

**Additional references available upon request**

* 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.