

5-Hydroxy-L-Tryptophan

Natural Precursor for Serotonin Production

Serotonin Elevates Mood and Produces a "Sense of Well-Being"

Neurotransmitters affect the brain in various ways. Some, like dopamine, energize it, while others, such as gamma amino butyric acid (GABA) calm it. Serotonin, one of the most powerful neurotransmitters, has particularly widespread effects. It can elevate mood and produce a sense of well-being.⁽³⁾

Lack of serotonin in the brain or abnormalities in serotonin metabolism have been associated with neurologic conditions including Parkinson's disease, tardive dyskinesia, akathisia, dystonia, Huntington's disease, familial tremor, restless leg syndrome, myoclonus, tourette syndrome, multiple sclerosis, sleep disorders and dementia.⁽¹⁾

Psychiatric disorders including depression, anxiety, aggression, compulsive behavior, substance

5-HYDROXY-L-TRYPTOPHAN

Natural Precursor to Serotonin

Product No. 833 Fill Size: 30 capsules

Each capsule contains:

5-Hydroxy-L-Tryptophan ----- 100 mg.

Warning: Do not take with MAO inhibitors or other antidepressant drugs.

RECOMMENDED USE: Depending upon the type and severity of symptoms, doses of 100-900 mg. daily are considered safe. Vitamin B₆ or pyridoxal-5'-phosphate supplements may also be recommended since pyridoxal-5'-phosphate is necessary for conversion of 5HTP to serotonin.

abuse, bulimia, seasonal affective disorder, childhood hyperactivity, mania, hypersexuality, schizophrenia, and behavioral disorders in geriatric patients have been associated with impaired central serotonin function.⁽¹⁾

Natural Precursors Can Safely Raise Serotonin Levels to Relieve Depression, Pain and Carbohydrate Cravings

There are a number of ways to increase serotonin in the brain, including antidepressant drugs and increased consumption of carbohydrates and fats. However, probably the safest, most efficient way to increase serotonin is to provide the body with natural precursors so that more can be produced. Serotonin is produced in the body from the amino acid L-tryptophan which is metabolized to 5-hydroxy-L-tryptophan and then, with the help of pyridoxal-5'-phosphate the coenzyme form of vitamin B₆, into 5-hydroxy-tryptamine (serotonin).

5-Hydroxy-L-Tryptophan

Taken as a supplement, 5-hydroxy-L-tryptophan (5HTP) is most efficient because it is the direct precursor to serotonin (5HT) and it is readily available to the body. Compared with antidepressant drugs, 5HTP has been found just as effective for depression, with far fewer negative side effects.

5HTP is not readily available from food sources; however, it has been found in high concentrations in the seeds of the West African legume *Griffonia simplicifolia*.⁽⁵⁾ The perennial, woody climbing plant grows wild in west tropical Africa and Gabon. **Progressive Laboratories' 5-Hydroxy-L-Tryptophan** is derived from this natural source. 5HTP has also been found in the seeds of two other less common *Griffonia* species, *G. physocarpa*

and *G. speciosa*; however, it has not been found in any plant other than *Griffonia*.⁽⁶⁾

L-Tryptophan

L-tryptophan from food sources is generally not effective in altering serotonin levels.⁽⁴⁾ Due to competitive inhibition by other amino acids that accompany tryptophan in the diet, it is estimated that only 1% of dietary tryptophan is metabolized to serotonin. Once absorbed into the blood stream, tryptophan competes with 5 other neutral amino acids (tyrosine, phenylalanine, leucine, isoleucine and valine) at the blood brain barrier. About 90% of dietary tryptophan is metabolized by hepatic enzymes through a much longer chain and eventually becomes nicotinic acid (niacin).⁽¹⁾

L-tryptophan in supplement form, taken between meals so that it does not compete with other amino acids, can elevate serotonin and has proven effective for treating depression and other neurologic and psychiatric disorders associated with serotonin deficiency. However, L-tryptophan was banned as a supplement in 1990 after a number of cases of eosinophilic myalgia syndrome (EMS) were associated with tryptophan supplements which were later traced to a contaminated batch imported from a Japanese manufacturer.⁽¹⁾

Appetite and Carbohydrate Cravings

Depression is often accompanied by appetite and weight changes and depressed patients frequently have an increased appetite for carbohydrates. This craving may be related to carbohydrate's effect on serotonin synthesis.^(4,8,9)

In a double blind trial involving 20 obese patients randomly given either 900 mg. of 5HTP daily or a placebo, the 5HTP group showed significant weight loss, reduced carbohydrate intake and early satiety. During the first six weeks of the trial the patients were not put on any type of diet. A calorie restricted diet was prescribed for the next six weeks. There was significant weight loss in the 5HTP treated group during both periods.^(3,7)

Migraine and Fibromyalgia Pain

5HTP has been found to prevent migraines in some patients. In an Italian study of 40 migraine

patients, about half of those given 5HTP supplements (400 mg. per day for two months) reported at least a 50% improvement with fewer, less severe migraines of shorter duration.⁽³⁾

Fibromyalgia patients often have low serotonin levels. In a group of 50 patients given 5HTP (100 mg. 3 times daily) about half reported improvement in pain, fatigue, anxiety and sleep quality.⁽³⁾

Serotonin and Substance Abuse

In the 1970's, a number of scientists established that alcohol and narcotics can modulate serotonin and other neurotransmitters in the brain. Others demonstrated that alcoholics metabolize serotonin abnormally. This abnormality may be due in part to B₆ deficiency, common in alcoholics. B₆ is necessary for metabolism of 5HTP to serotonin. The interrelationship between substance abuse and depression, depression and serotonin, serotonin and substance abuse was thus established.⁽²⁾

The Serotonin-Controlling Antidepressants

The market for serotonin-controlling medications is estimated at over 2 billion dollars per year. The popular antidepressants such as Prozac, Zoloft, Effexor, Paxil and others are known as selective serotonin reuptake inhibitors (SSRIs). SSRIs block the resorption, or reuptake, of serotonin by the neurons, thus increasing its availability. While these prescription antidepressants are generally effective, they are associated with a significant number of negative side effects. In addition, since these drugs don't influence serotonin production, they just keep it circulating longer, the process may reduce serotonin stores and impair its release, resulting in less serotonin in the brain.⁽³⁾

The notorious weight loss drug Phen-Fen is a combination of the drugs phentermine, a stimulant to the central nervous system, and fenfluramine. Fenfluramine and its principle active component dexfenfluramine (Redux™) are both serotonin releasers and reuptake inhibitors. Decreased serotonin levels and depression can result when these drugs are withdrawn. In addition to a long list of other side effects, fenfluramine, particularly in combination with phentermine, has been associated with serious disorders of the mitral, aortic and/or tricuspid valves.⁽²⁾

Sugar, Carbohydrate and Fat Consumption

Consumption of sugar, carbohydrates and excess fats also increases serotonin synthesis; however, over consumption can result in increased cravings, overeating and obesity. Sugar and carbohydrates promote insulin release which facilitates transport of tryptophan into the brain.⁽⁸⁾

Serotonin increases whether the carbohydrates consumed are simple or complex, yet depressed patients have a preferential craving for sugar and other simple carbohydrates which work faster and generally taste better. However, the short-term lift results in longer term fatigue and depression.⁽⁹⁾

WARNING: This information is provided for health care professionals only. **This publication and the product contained herein have not been approved or evaluated by the Food and Drug Administration. This publication, and the product contained herein are not intended to diagnose, treat, cure or prevent any disease.** The product relates to nutritional support only.

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