

TRYPTOPHAN-PLUS

USP L-Tryptophan (A GMP Product)

Plus the Enzymatic Co-Factors of B-6 & B-2

Tryptophan is the precursor to Serotonin, a neurotransmitter in the brain, which is deficient in depression - and naturally enhances sleep.

Tryptophan-Plus contains Tryptophan *plus* two active co-enzymes (B-6 & B-2) necessary for proper metabolism and to convert Tryptophan to Serotonin for optimal results

Each **Tryptophan-Plus** vegetarian capsule contains 500 mg. of USP L-Tryptophan *plus* Pyridoxal 5 - Phosphate (co-enzymatic B-6) - (3.14mg.- elemental) & Riboflavin- 5 - Phosphate (co-enzymatic 0-2) - (2.19mg. - elemental)

DIRECTIONS: As a sleep aid, take 1-2 capsules 30 minutes before bedtime, during the night if required, or as needed. If Serotonin deficiencies are noted in depression - and for anxiety and mood enhancement, take 1- 2 capsules 30 minutes before dinner and 1-2 capsules 30 minutes before bedtime, If low Catecholamines are also involved, also take 2 FTH L-Tyrosine 30 minutes prior to breakfast & 2 mid-morning (or 30 minutes prior to lunch).

- **CAUTION:** Those taking drugs classified as SSRI or MAO inhibitors should not take Tryptophan supplementation unless consulting with their physician.

RECOMMENDED TO ENHANCE STRUCTURE & FUNCTION RELATING TO NUTRITIONAL NEEDS AND DEFICIENCIES PERTAINING TO:

- Increasing Serotonin production - Low Serotonin levels and low Tryptophan levels have been associated with depression.
- Sleep deprivation. Supplementation naturally enhances relaxation and sleep.
- Providing necessary co-factors for converting Tryptophan to Serotonin.
- Increases in Serotonin have also been helpful in those on weight reduction regimens and Tryptophan also has an effect on pain tolerance,
- Serotonin deficiencies, which have also been noted in chemical addictions.

WHAT IS TRYPTOPHAN?

Tryptophan, an essential amino acid, is the precursor to Serotonin, which is a necessary neurotransmitter responsible for transmitting nerve impulses in the brain, and inducing sleep and tranquility. Serotonin deficiencies, which are related to Tryptophan deficiencies, are well document in cases of depression and insomnia, as well as chemical addictions. Low levels of Tryptophan have also been noted with PMS, and substance abuse. The dietary sources of Tryptophan are cottage cheese, milk, brown rice, peanuts, meat, turkey and soy products, although supplementation is an excellent, measurable source for increasing Tryptophan levels. It is essential for biochemical balance of the brain, and is very helpful for those with sleep deprivation, anxiety and mood enhancement due to low Serotonin levels. Tryptophan supplementation has also been effective in appetite control, increasing pain tolerance and assisting those with jet lag. In 1989, *contaminated* Tryptophan (from an inferior source no longer in business, and purchases by other companies) was responsible for a disorder known as EMS. FTH NUTRACEUTICALS supplies only the highest quality Tryptophan (with no identifiable contaminants) in **Tryptophan-Plus**, which is now available for professional use.

PYRIDOXAL- 5'-PHOSPHATE

Pyridoxal- 5'-Phosphate (the enzymatic - active form of Vitamin B-6) is essential for Tryptophan metabolism and conversion to Serotonin. Most B-6 supplements are Pyridoxine, which must be converted in the liver to Pyridoxal-5'-Phosphate for it to be properly utilized. Many individuals do not convert sufficient amounts of this important B vitamin for proper metabolism and functions, which can result in a B-6 deficiency and lead to a biochemical imbalance. The result of this deficiency causes low Tryptophan and Serotonin levels, affecting mood levels and possibly causing insomnia. The co-enzymatic form of B-6

is also essential for the metabolism of Tyrosine, a precursor to Catecholamine production, further affecting mood. Insufficient Pyridoxal-5'-Phosphate may be responsible for depression, anxiety, insomnia and other psychological problems. **Tryptophan-Plus** contains P-5'-P to insure the proper conversion of Tryptophan to Serotonin for optimal results.

RIBOFLAVIN-S'-PHOSPHATE

Riboflavin-5'-Phosphate (the enzymatic - active form of B-2) is essential for many bodily functions, including ATP production, energy & carbohydrate metabolism, and maintenance of the nervous system. It helps convert Pyridoxine to the active Pyridoxal- 5'-Phosphate. A deficiency of Riboflavin may cause deficiency of P-5'-P, resulting in neurotransmitter imbalances and deficiencies, including preventing the conversion of Tryptophan to Serotonin. Inactive Riboflavin (B-2) has to be converted in the liver to Flavin Mononucleotide (FMN) & Flavin Adenine Dinucleotide (FAD), and Flavokinase production is also necessary in order for B-2 to be activated and properly utilized. Sufficient amounts do not convert in many individuals, and a deficiency of active Riboflavin can cause significant behavioral problems. In addition, Psychopharmacological drugs, including chlorpromazine, imipramine, and amitriptyline actually inhibit the formation of FMN & FAD. **Riboflavin-5'-Phosphate is the active form of Riboflavin and it is included in Tryptophan-Plus or increased effectiveness.**

TRYPTOPHAN-PLUS AND SLEEP

Sleep deprivation is a serious concern for many, and low Serotonin levels are often the cause of this problem. Tryptophan (with the necessary co-factors) converts to Serotonin helping to induce relaxation and naturally enhancing sleep. 1-2 capsules 30 minutes prior to bedtime are recommended, and it may also be taken during the night if necessary. In extreme cases of insomnia, **Tryptophan-Plus** maybe taken early evening, as well as bedtime. Complex carbohydrates are important for proper utilization and may increase effectiveness.

TYPTOPHAN-PLUS AND MOOD ENHANCEMENT

Tryptophan (plus co-factors) naturally converts to Serotonin and it has been well documented that low Serotonin levels and low Tryptophan levels have been associated with depression. If depression also involves Catecholamine biochemistry, then taking **Tryptophan-Plus** in a regimen along with FTH L-Tyrosine is recommended. (L-Tyrosine should be taken prior to breakfast & mid morning).

***Other uses for Tryptophan-Plus include pain tolerance, appetite control, chemical addiction and jet lag.**

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