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L-tryptophan

What is it?

L-tryptophan is an amino acid, a protein building block that can be found in many plant and animal proteins. L-tryptophan is called an “essential” amino acid because the body can’t make it. It must be acquired from food.

L-tryptophan is used for insomnia, sleep apnea, depression, anxiety, facial pain, a severe form of premenstrual syndrome called premenstrual dysphoric disorder (PMDD), smoking cessation, grinding teeth during sleep (bruxism), attention deficit–hyperactivity disorder (ADHD), Tourette's syndrome, and to improve athletic performance.

How effective is it?

Natural Medicines Comprehensive Database rates effectiveness based on scientific evidence according to the following scale: Effective, Likely Effective, Possibly Effective, Possibly Ineffective, Likely Ineffective, Ineffective, and Insufficient Evidence to Rate.

The effectiveness ratings for **L-TRYPTOPHAN** are as follows:

Possibly effective for...

- **Treating premenstrual dysphoric disorder (PMDD).** Taking 6 grams of L-tryptophan per day seems to decrease mood swings, tension, and irritability in women with PMDD.
- **Smoking cessation (helping people quit smoking).** Taking L-tryptophan seems to improve the effectiveness of conventional treatment for smoking cessation.

Possibly ineffective for...

- **Treating teeth grinding (bruxism).**
- **Treating facial pain.**

- **Improving athletic ability.**

Insufficient evidence to rate effectiveness for...

- **Depression.** Developing research suggests that L-tryptophan might improve the effectiveness of common medications for depression.
- **Seasonal affective disorder (SAD).** Early research suggests L-tryptophan might be helpful in SAD.
- **Attention deficit-hyperactivity disorder (ADHD).** There is some evidence that L-tryptophan levels are lower in children with ADHD; however, taking L-tryptophan supplements does not appear to improve ADHD symptoms.
- **Treating sleep disorders.** Taking L-tryptophan might decrease the amount of time it takes to fall asleep and improve mood in healthy people with sleep problems. There is also some evidence that taking L-tryptophan might decrease episodes in some people who periodically stop breathing during sleep (sleep apnea).
- **Anxiety.**
- **Other conditions.**

More evidence is needed to rate L-tryptophan for these uses.

How does it work?

L-tryptophan is naturally found in animal and plant proteins. L-tryptophan is considered an essential amino acid because our bodies can't make it. It is important for the development and functioning of many organs in the body. After absorbing L-tryptophan from food, our bodies convert it to 5-HTP (5-hydroxytryptophan), and then to serotonin. Serotonin is a hormone that transmits signals between nerve cells. It also causes blood vessels to narrow. Changes in the level of serotonin in the brain can alter mood.

Are there safety concerns?

L-tryptophan is **POSSIBLY UNSAFE** when taken by mouth. It has been linked to over 1500 reports of eosinophilia-myalgia syndrome (EMS) and 37 deaths. EMS is a neurological condition with symptoms that include fatigue; intense muscle pain; nerve pain; skin changes; baldness; rash; and pain and swelling affecting the joints, connective tissue, lungs, heart, and liver. Symptoms tend to improve over time, but some people may still experience symptoms up to 2 years after they develop EMS. Some people report that their symptoms have never gone away completely.

In 1990, L-tryptophan was recalled from the market due to these safety concerns. After the

limitation of L-tryptophan products, the number of EMS cases dropped sharply. The exact cause of EMS in patients taking L-tryptophan is unknown, but some evidence suggests it may be due to contaminated L-tryptophan products. About 95% of all EMS cases were traced to L-tryptophan produced by a single manufacturer in Japan. Currently, under the Dietary Supplement Health and Education Act (DSHEA) of 1994, L-tryptophan is available and marketed as a dietary supplement.

L-tryptophan can cause some side effects such as heartburn, stomach pain, belching and gas, nausea, vomiting, diarrhea, and loss of appetite. It can also cause headache, lightheadedness, drowsiness, dry mouth, visual blurring, muscle weakness, and sexual problems.

Special precautions & warnings:

Pregnancy and breast-feeding: L-tryptophan is **LIKELY UNSAFE** in pregnancy because it may harm the unborn child. Not enough is known about the safety of L-tryptophan during breast-feeding. Avoid using L-tryptophan during pregnancy and breast-feeding.

A white blood cell disorder called eosinophilia: L-tryptophan might make this condition worse. L-tryptophan has been associated with the development of eosinophilia-myalgia syndrome (EMS).

Liver or kidney disease: L-tryptophan might make these conditions worse since it has been associated with the development of eosinophilia-myalgia syndrome (EMS).

Are there interactions with medications?

Major

Do not take this combination.

Sedative medications (CNS depressants)

L-tryptophan might cause sleepiness and drowsiness. Medications that cause sleepiness are called sedatives. Taking L-tryptophan along with sedative medications might cause too much sleepiness.

Some sedative medications include clonazepam (Klonopin), lorazepam (Ativan), phenobarbital (Donnatal), zolpidem (Ambien), and others.

Moderate

Be cautious with this combination.

Dextromethorphan (Robitussin DM, and others)

L-tryptophan can affect a brain chemical called serotonin. Dextromethorphan (Robitussin

DM, others) can also affect serotonin. Taking L-tryptophan along with dextromethorphan (Robitussin DM, others) might cause there to be too much serotonin in the brain and serious side effects including heart problems, shivering and anxiety could occur. Do not take L-tryptophan if you are taking dextromethorphan (Robitussin DM, others).

Medications for depression (Antidepressant drugs)

L-tryptophan increases a brain chemical called serotonin. Some medications for depression also increase the brain chemical serotonin. Taking L-tryptophan along with these medications for depression might increase serotonin too much and cause serious side effects including heart problems, shivering, and anxiety. Do not take L-tryptophan if you are taking medications for depression.

Some of these medications for depression include fluoxetine (Prozac), paroxetine (Paxil), sertraline (Zoloft), amitriptyline (Elavil), clomipramine (Anafranil), imipramine (Tofranil), and others.

Medications for depression (MAOIs)

L-tryptophan increases a chemical in the brain. This chemical is called serotonin. Some medications used for depression also increase serotonin. Taking L-tryptophan with these medications used for depression might cause there to be too much serotonin. This could cause serious side effects including heart problems, shivering, and anxiety.

Some of these medications used for depression include phenelzine (Nardil), tranylcypromine (Parnate), and others.

Meperidine (Demerol)

L-tryptophan increases a chemical in the brain called serotonin. Meperidine (Demerol) can also increase serotonin in the brain. Taking L-tryptophan along with meperidine (Demerol) might cause too much serotonin in the brain and serious side effects including heart problems, shivering, and anxiety.

Pentazocine (Talwin)

L-tryptophan increases a brain chemical called serotonin. Pentazocine (Talwin) also increases serotonin. Taking L-tryptophan along with pentazocine (Talwin) might cause serious side effects including heart problems, shivering, and anxiety. Do not take L-tryptophan if you are taking pentazocine (Talwin).

Phenothiazines

Taking L-tryptophan with phenothiazines can cause serious side effects including movement disorders.

Some phenothiazines include chlorpromazine (Thorazine), fluphenazine (Prolixin), trifluoperazine (Stelazine), thioridazine (Mellaril), and others.

Sedative medications (Benzodiazepines)

Sedative medications can affect the nervous system. L-tryptophan can also affect the nervous system. Taking L-tryptophan along with sedative medications can cause serious side effects. Do not take L-tryptophan if you are taking sedative medications.

Some of these sedative medications include clonazepam (Klonopin), diazepam (Valium), lorazepam (Ativan), and others.

Tramadol (Ultram)

Tramadol (Ultram) can affect a chemical in the brain called serotonin. L-tryptophan can also affect serotonin. Taking L-tryptophan along with tramadol (Ultram) might cause too much serotonin in the brain and side effects including confusion, shivering, and stiff muscles could result.

Are there interactions with herbs and supplements?

Herbs and supplements that act like sedatives

L-tryptophan can cause drowsiness and relaxation. Using it along with other herbs and supplements that also have sedative effects might cause too much drowsiness. Some of these herbs and supplements include 5-HTP, calamus, California poppy, catnip, hops, Jamaican dogwood, kava, St. John's wort, skullcap, valerian, yerba mansa, and others.

Herbs and supplements that increase serotonin levels

L-tryptophan seems to raise the level of serotonin, a hormone that transmits signals between nerve cells and affects mood. There is a concern that using it with other herbs and supplements that increase serotonin, might increase the effects and side effects of those herbs and supplements. Some of those include 5-HTP, Hawaiian baby woodrose, and S-adenosylmethionine (SAME).

St. John's wort

Combining L-tryptophan with St. John's wort might increase the risk of serotonin syndrome, a possibly fatal condition that occurs when there is too much serotonin in the body. There is a report of serotonin syndrome in a patient who took L-tryptophan and high doses of St. John's wort.

Are there interactions with foods?

There are no known interactions with foods.

What dose is used?

The appropriate dose of L-tryptophan depends on several factors such as the user's age, health, and several other conditions. At this time, there is not enough scientific information to determine an appropriate range of doses for L-tryptophan. Keep in mind that natural

products are not always necessarily safe and dosages can be important. Be sure to follow relevant directions on product labels and consult your pharmacist or physician or other healthcare professional before using.

Other names

L-Triptofano, L-Trypt, L-2-amino-3-(indole-3-yl) propionic acid, L-Tryptophane, Tryptophan.

Methodology

To learn more about how this article was written, please see the *Natural Medicines Comprehensive Database* methodology [<https://medlineplus.gov/druginfo/natural/methodology.html>] .

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