L-Theanine

Alternate Names/Related Terms
• Theanine; Gamma-glutamylethylamide; Black Tea

Principal Proposed Uses
• Stress; Mental Function

Other Proposed Uses
• Anxiety; Cancer (Prevention and Treatment); Memory and Mental Function; High Cholesterol; Immunity Enhancement; Obesity (Prevention); Schizophrenia; Stroke (Prevention)

L-theanine is a water-soluble amino acid. Amino acids are the building blocks of proteins. L-theanine has been studied for its possible health benefits, ranging from cancer and stroke prevention to weight loss. However, most research on the amino acid has been conducted to assess its stress-relieving effects.

Sources
L-theanine is found mainly in tea (e.g., green tea and black tea), and to a less extent in mushrooms. L-theanine is also available in its purified form as an oral dietary supplement.

Therapeutic Dosages
Optimal doses of tea or its constituents are not known.

Therapeutic Uses
L-theanine is thought to have both antioxidant and relaxant effects. Some animal studies have shown that the amino acid may also be helpful in lowering lipids in the blood, fighting obesity, and preventing cognitive dysfunction and stroke. L-theanine has been shown to increase the anti-tumor activity of two cancer-fighting drugs, doxorubicin and idarubicin.

What Is the Scientific Evidence for L-Theanine?
Although there have been a handful of studies evaluating L-theanine for several conditions, most research has been centered on its effects on mental status.

L-theanine has been shown to have a direct influence on brain activity, such as reducing stress. At high doses (higher than usual doses found in a cup of black tea [20 mg (milligrams)]), it has the ability to relax the mind without causing drowsiness. One study measured a type of activity in the brain, called alpha activity, which plays an important role in attention. Thirty-five participants were given either 50 mg of L-theanine or placebo. Electroencephalogram (EEG) tests were done at baseline and then at specified times afterwards (45, 60, 75, 90,
Researchers found that there was a greater increase in alpha activity in those who took L-theanine compared to placebo, demonstrating that the amino acid had an effect on the participants’ general state of mental alertness and arousal.

A handful of studies have also looked at the combination of L-theanine and caffeine on various aspects of cognition and mood (eg, alertness, attention). For instance, one study compared the effect of caffeine with and without L-theanine on cognition and mood in 27 participants. Researchers gave participants placebo, caffeine, or caffeine plus L-theanine and measured their performance on several cognitive tests at baseline and then at 60 and 90 minutes after treatment. They found that the combination of caffeine and L-theanine improved speed and accuracy in an attention-switching task, as well as reduced the likelihood of distraction during a memory task. Caffeine alone did improve alertness and accuracy.

Researchers in Korea conducted a randomized, double-blind, placebo-controlled study to look at the effect of L-theanine on memory and attention in 91 people with mild cognitive impairment. Half of the participants were given 1,680 mg of L-theanine (LGNC-07) and the other half was given placebo for 16 weeks. Memory and word tests were conducted, as well as EEG tests. The researchers found that L-theanine improved memory and selective attention, as well as cognitive alertness.

Another small study also found the amino acid to have a positive effect in reducing anxiety. The double-blind, randomized, placebo-controlled study was made up of 60 people diagnosed with schizophrenia or schizoaffective disorder. Of the 40 patients who completed the study, L-theanine was associated with reduced anxiety and was found to be well-tolerated and safe.

Safety Issues

There have not been any side effects reported from taking L-theanine. However, drinking large amounts of green tea in general may cause upset stomach, irritability, and nausea due to the tea’s caffeine content. Also, do not take L-theanine if undergoing chemotherapy or are taking lipid-lowering medicines or sedatives, since L-theanine may alter the effects of these drugs.

References: [+]  
7. Ritsner MS, Miodownik C, Ratner Y, et al. L-theanine relieves positive, activation, and anxiety symptoms in patients with schizophrenia and schizoaffective disorder: an 8-week, randomized, double-blind,


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