

Ingredient Spotlight: L-Tryptophan

What is L-Tryptophan? L-Tryptophan, an essential amino acid that the body can't produce must be obtained from dietary sources such as red meat, dairy, poultry and eggs. In the gut it's converted to 5-HTP and then to serotonin. (1) Both L-Tryptophan and 5-HTP are able to penetrate the blood-brain barrier.

What does it/ they do? Tryptophan is a precursor for niacin and is the sole precursor of the neurotransmitter serotonin. After absorbing L-Tryptophan from food, the body converts it to 5-HTP (5-hydroxytryptophan), and then to serotonin. Experimental research has shown that L-Tryptophan's role in brain serotonin synthesis is an important factor involved in mood, behavior, and cognition.

In a double blind controlled study of 30 working dogs, L-Tryptophan was administered for 8 weeks. During this time the dogs were found to display fewer signs of stress related behavior such as barking and staring. The authors concluded that there was an improvement in the dogs' overall welfare. (2)

In a prospective crossover study in dogs, the addition of L-Tryptophan was shown to help reduce aggressive behavior. (3)

In a placebo controlled double blinded study in cats, L-Tryptophan was added to the diet which resulted in a decrease in house soiling as well as aggressive/fighting behaviors. (4)

Adverse effects: Uncommon but there may be gastrointestinal effects such as heartburn, stomach pain, belching and flatulence, nausea, vomiting, diarrhea.

Potential drug interactions: Benzodiazepines, tramadol, dextromethorphan, phenothiazines.

Products that utilize this ingredient include: Composure Pro, Composure Pro liquid, Composure Pro for Cats.

References:

1 <https://naturalmedicines.therapeuticresearch.com/databases/food,-herbs-supplements/professional.aspx?productid=326>. Accessed 4/19/2022

2 Effect of dietary intake of L-Tryptophan supplementation on working dogs demonstrating stress related behaviours Pereira, G.G., Pires, E. & Fragoso, S. Centre of Clinical Behaviour and Animal Welfare, Faculty of Veterinary Medicine, Lusófona University, Lisbon, Portugal

3 DeNapoli, J S et al. "Effect of dietary protein content and tryptophan supplementation on dominance aggression, territorial aggression, and hyperactivity in dogs." *Journal of the American Veterinary Medical Association* vol. 217,4 (2000): 504-8. doi:10.2460/javma.2000.217.504

4 Pereira GG, Fragoso, S, Pires E. L-tryptophan supplementation on multi-housed cats presenting stress-related behaviours. BSWA Proceedings, 2010.