

L-Theanine Datasheet

4th Edition (Revised in July, 2016)

[Product Information]

Name: L-Theanine

Catalog No.: CFN90429

Cas No.: 3081-61-6

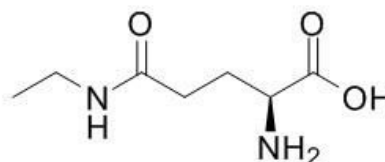
Purity: >=98%

M.F: C₇H₁₄N₂O₃

M.W: 174.19

Physical Description: Cryst.

Synonyms: L-Glutamic acid gamma-(ethylamide);Ethyl-L-glutamine.



[Intended Use]

1. Reference standards;
2. Pharmacological research;
3. Food research;
4. Synthetic precursor compounds;
5. Intermediates & Fine Chemicals;
6. Others.

[Source]

The leaves of *Camellia sinensis*.

[Biological Activity or Inhibitors]

L-Theanine is an amino acid contained in green tea leaves which is known to block the of to receptors in the brain, the oral intake of L-theanine can cause anti-stress effects via the inhibition of cortical neuron excitation.^[1]

The combination of L-theanine and caffeine can improve cognitive performance and increases subjective alertness.^[2]

L-Theanine could be used as a relaxing agent. ^[3]

L -Theanine directly provide neuroprotection against Parkinson's disease (PD)-related neurotoxins and may be clinically useful for preventing PD symptoms.^[4]

L-Theanine prevents ethanol-induced liver injury through enhancing hepatocyte antioxidant abilities.^[5]

L-Theanine possesses an antidepressant-like effect in mice, which may be mediated by the central monoaminergic neurotransmitter system.^[6]

[Solvent]

Pyridine, Methanol, Ethanol, etc.

[HPLC Method]^[7]

Mobile phase: 0.005 M sodium dodecyl sulfate(adjusted to PH3.0 with phosphoric acid)-Acetonitrile=34:66 ;

Flow rate: 1.0 ml/min;

Column temperature: Room Temperature;

The wave length of determination: 205 nm.

[Storage]

2-8°C, Protected from air and light, refrigerate or freeze.

[References]

[1] Kimura K, Ozeki M, Juneja L R, *et al. Biol. Psychol.*, 2007, 74(1):39-45.

- [2] Giesbrecht T, Rycroft J A, Rowson M J, *et al. Nutr. Neurosci.*, 2015, 13(6):283-90.
- [3] Nathan P J. *Hum. Psychopharm. Clin.* 2004, 19(7):457-65.
- [4] Cho H S, Kim S, Lee S Y, *et al. Neurotoxicology*, 2008, 29(4):656-62.
- [5] Li G, Ye Y, Kang J, *et al. Food Chem. Toxicol.*, 2012, 50(2):363-72.
- [6] Yin C, Gou L, Liu Y, *et al. Phytother. Res.*, 2011, 25(11):1636- 9.
- [7] Ding Y M, Chen F, Zhou W, *et al. Acta Nutrimenta Sinica*, 2012, 34(1):82-6.

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