

## Product Information

### Ibotenic acid

Catalog Number **I2765**  
Storage at Room Temperature

#### Product Description

Molecular Formula: C<sub>5</sub>H<sub>6</sub>N<sub>2</sub>O<sub>4</sub>  
Molecular Weight: 158.1  
CAS Number: 2552-55-8  
Melting point: 151-152 °C<sup>1</sup>  
Synonyms: α-amino-3-hydroxy-5-isoxazoleacetic acid<sup>1</sup>

This product is the principal toxin found in many mushroom varieties. Cells metabolize this product to another active derivative, muscimol. Both of these toxins act as excitatory amino acids by mimicking the natural transmitters, glutamic acid and aspartic acid, on neurons in the central nervous system.<sup>2,3</sup> These toxins may also cause selective death of neurons sensitive to these excitatory amino acids.<sup>4,5</sup> This product is a potent glutamate agonist, which has been used to potentiate anesthesia and to inhibit tremor and emesis.

This product has also been used to suppress enzymatic activities. When injected into rat brain, it was shown to suppress choline acetyltransferase activity.<sup>6</sup> Seven days after injection, enzyme levels had decreased 60%; after 3 months activity had returned to normal. This product is also reported to be an insecticidal agent.<sup>7</sup>

This product is synthetic and is a racemic mixture (no isolation of isomers was performed during synthesis)

#### Precautions and Disclaimer

For Laboratory Use Only. Not for drug, household or other uses.

#### Preparation Instructions

This product is soluble in water (1 mg/ml) with < 5 min. sonication, yielding a clear, colorless solution.

#### Storage/Stability

Store the product desiccated at -20 °C and it remains active for at least 3 years.

#### References

1. The Merck Index, 11th ed., Entry# 4808.
2. Collingridge, et al., Excitatory amino acid receptors in the vertebrate central nervous system. *Pharmacological Review*, 40(2), 143 (1989).
3. Johnston, G. A., et al., Spinal interneuron excitation by conformationally restricted analogues of L-glutamic acid. *Nature*, 248(5451), 804-805 (1974).
4. Gallagher, M., et al., The amygdala central nucleus and appetitive Pavlovian conditioning: lesions impair one class of conditioned behavior. *J. Neurosci.*, 10(6), 1906-1911 (1990)
5. Holland, P. C., and Gallagher, M., Effects of amygdala central nucleus lesions on blocking and unblocking. *Behav. Neurosci.*, 107(2), 235-245 (1993).
6. Wenk, G. L., and Olton, D. S., *Brain Research*, 293, 184-186 (1984).
7. Martindale The Extra Pharmacopoeia, 30th ed., Reynolds, J. E. F., ed., The Pharmaceutical Press (London, England: 1993), p. 1390.

CMH/RXR, SBC 05/20-2

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