Muscimol
Item No. 13667

CAS Registry No.: 2763-96-4
Formal Name: 5-(aminomethyl)-3(2H)-isoxazolone
Synonyms: Agarin, Pantherine
MF: C₅H₈N₂O₂
FW: 114.1
Purity: ≥98%
Stability: ≥2 years at -20°C
Supplied as: A crystalline solid

Laboratory Procedures
For long term storage, we suggest that muscimol be stored as supplied at -20°C. It should be stable for at least two years.

Muscimol is supplied as a crystalline solid. Muscimol is sparingly soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. For biological experiments, we suggest that organic solvent-free aqueous solutions of muscimol be prepared by directly dissolving the crystalline compound in aqueous buffers. The solubility of muscimol in PBS, pH 7.2, is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

The amino acid γ-aminobutyric acid (GABA) is an inhibitory neurotransmitter that acts through two families of heteromeric ligand-gated ion channels, GABAₐ and GABAₐC and a G protein-coupled receptor, GABA₂. Muscimol is a full GABAₐ agonist and partial GABAₐC agonist. It binds GABAₐ on both high- and low-affinity sites (Kᵢ = 10 and 270 nM, respectively), stimulating chloride efflux with an EC₅₀ value of 200 nM. Benzodiazepines enhance the effects of muscimol via GABAₐ without altering its binding.¹,² Muscimol activates GABAₐC receptors with an EC₅₀ value of 1.3 μM.³ It also acts as an inhibitor of GABAₐ uptake and a substrate for the GABA-metabolizing enzyme GABA transaminase.⁴ Muscimol impairs memory formation and retrieval in mice and attenuates airway constriction in guinea pigs in vivo.⁵,⁶

References

Related Products
GABAₐ Receptor & subunit (N-Term) Polyclonal Antibody - Item No. 10600 • Vigabatrin - Item No. 9000976 • Gabapentin - Item No. 10008346 • Zolpidem-d₆ - Item No. 10010652 • Clozapine (hydrobromide) - Item No. 10011126 • Thioperamide-Maleate - Item No. 10011127

WARNING: THIS PRODUCT IS FOR LABORATORY RESEARCH ONLY; NOT FOR ADMINISTRATION TO HUMANS. NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.