

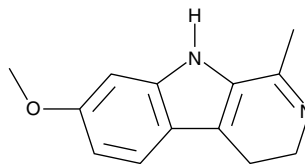
Product Information



Harmaline

Item No. 10995

CAS Registry No.: 304-21-2
Formal Name: 4,9-dihydro-7-methoxy-1-methyl-3H-pyrido[3,4-b]indole
MF: C₁₃H₁₄N₂O
FW: 214.3
Purity: ≥98%
Stability: ≥2 years at -20°C
Supplied as: A crystalline solid
UV/Vis.: λ_{max}: 205, 220, 335 nm



Laboratory Procedures

For long term storage, we suggest that harmaline be stored as supplied at -20°C. It should be stable for at least two years. Harmaline is supplied as a crystalline solid. A stock solution may be made by dissolving the harmaline in the solvent of choice. Harmaline is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of harmaline in these solvents is approximately 0.5, 0.25, and 1.4 mg/ml, respectively.

Harmaline is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, harmaline should first be dissolved in DMF and then diluted with the aqueous buffer of choice. Harmaline has a solubility of approximately 0.5 mg/ml in a 1:1 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Harmaline is a psychoactive indole found naturally in certain plants. Its stimulating activities are achieved, in part, through inhibition of monoamine oxidases, thus increasing the levels of monoamine neurotransmitters (*e.g.*, at 7-70 μM/kg in rats).¹ Harmaline (30 mg/kg) induces tremor in mice through the N-methyl-D-aspartate (NMDA) receptor, at which harmaline may act as an inverse agonist.^{2,3} This compound has also been identified as an adulterant in herbal mixtures containing synthetic cannabinoids and is described as contributing to poisoning when combined with a hallucinogenic tryptamine.^{4,5} This product is intended for forensic or research purposes.

References

1. Gey, K.F. and Pletscher, A. Effect of α-alkylated tryptamine derivatives on 5-hydroxytryptamine metabolism *in vivo*. *Brit. J. Pharmacol.* **19**, 161-167 (1962).
2. Du, W., Aloyo, V.J., and Harvey, J.A. Harmaline competitively inhibits [³H]MK-801 binding to the NMDA receptor in rabbit brain. *Brain Res.* **770**, 26-29 (1997).
3. Paterson, N.E., Malekiani, S.A., Foreman, M.M., *et al.* Pharmacological characterization of harmaline-induced tremor activity in mice. *Eur. J. Pharmacol.* **616**, 73-80 (2009).
4. Dresen, S., Ferreira, N., Pütz, M., *et al.* Monitoring of herbal mixtures potentially containing synthetic cannabinoids as psychoactive compounds. *J. Mass Spectrom.* **45**(10), 1186-94 (2010).
5. Brush, D.E., Bird, S.B., and Boyer, E.W. Monoamine oxidase inhibitor poisoning resulting from internet misinformation on illicit substances. *J. Toxicol. Clin. Toxicol.* **42**(2), 191-195 (2004).

Related Products

For a list of related products please visit: www.caymanchem.com/catalog/10995

Cayman Chemical

Mailing address

1180 E. Ellsworth Road
Ann Arbor, MI
48108 USA

Phone

(800) 364-9897
(734) 971-3335

Fax

(734) 971-3640

E-Mail

custserv@caymanchem.com

Web

www.caymanchem.com

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

MATERIAL SAFETY DATA

This material should be considered hazardous until information to the contrary becomes available. Do not ingest, swallow, or inhale. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. This information contains some, but not all, of the information required for the safe and proper use of this material. Before use, the user must review the complete Material Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY

Cayman Chemical Company makes **no warranty or guarantee** of any kind, whether written or oral, expressed or implied, including without limitation, any warranty of fitness for a particular purpose, suitability and merchantability, which extends beyond the description of the chemicals hereof. Cayman warrants only to the original customer that the material will meet our specifications at the time of delivery.

Cayman will carry out its delivery obligations with due care and skill. Thus, in no event will Cayman have any obligation or liability, whether in tort (including negligence) or in contract, for any direct, indirect, incidental or consequential damages, even if Cayman is informed about their possible existence.

This limitation of liability does not apply in the case of intentional acts or negligence of Cayman, its directors or its employees.

Buyer's exclusive remedy and Cayman's sole liability hereunder shall be limited to a refund of the purchase price, or at Cayman's option, the replacement, at no cost to Buyer, of all material that does not meet our specifications.

Said refund or replacement is conditioned on Buyer giving written notice to Cayman within thirty (30) days after arrival of the material at its destination. Failure of Buyer to give said notice within thirty (30) days shall constitute a waiver by Buyer of all claims hereunder with respect to said material.

For further details, please refer to our Warranty and Limitation of Remedy located on our website and in our catalog.

Copyright Cayman Chemical Company, 10/25/2011