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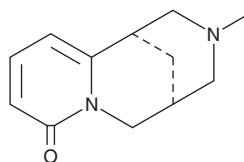
PRODUCT INFORMATION



N-Methylcytisine

Item No. 34752

CAS Registry No.: 486-86-2
Formal Name: (1R,5S)-1,2,3,4,5,6-hexahydro-3-methyl-1,5-methano-8H-pyrido[1,2-a][1,5]diazocin-8-one
Synonyms: Caulophylline, N-Me-cy
MF: C₁₂H₁₆N₂O
FW: 204.3
Purity: ≥95%
UV/Vis.: λ_{max}: 234, 311 nm
Supplied as: A solid
Storage: -20°C
Stability: ≥2 years
Item Origin: Plant/*Sophora flavescens*



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

N-Methylcytisine is supplied as a solid. A stock solution may be made by dissolving the N-methylcytisine in the solvent of choice, which should be purged with an inert gas. N-Methylcytisine is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of N-methylcytisine in these solvents is approximately 30, 15, and 20 mg/ml, respectively.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of N-methylcytisine can be prepared by directly dissolving the solid in aqueous buffers. The solubility of N-methylcytisine in PBS (pH 7.2) is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

N-Methylcytisine is an alkaloid that has been found in *L. albus* and has diverse biological activities.¹⁻⁵ It is an agonist of nicotinic acetylcholine receptors (nAChRs) and selectively binds to nAChRs over muscarinic acetylcholine receptors (mAChRs; IC₅₀s = 0.05 and 417 μM, respectively).^{1,2} It elicits whole-cell currents in *Xenopus* oocytes expressing α4β2, α4β4, and α7 subunit-containing nAChRs (EC₅₀s = 13, 13, and 340 μM, respectively, for the human receptors).² N-Methylcytisine is nematocidal against *B. xylophilus*.³ It inhibits LPS-induced production of nitric oxide (NO) in RAW 264.7 macrophages (IC₅₀ = 33.3 μM) and proliferation of SMMC-7721 cells when used at a concentration of 4 mg/ml.^{4,5}

References

- Schmeller, T., Sauerwein, M., Sporer, F., et al. *J. Nat. Prod.* **57(9)**, 1316-1319 (1994).
- Slater, Y.E., Houlihan, L.M., Maskell, P.D., et al. *Neuropharmacology* **44(4)**, 503-515 (2003).
- Matsuda, K., Yamada, K., Kimura, M., et al. *J. Agric. Food Chem.* **39(1)**, 189-191 (1991).
- Li, J.-C., Dai, W.-F., Liu, D., et al. *Bioorg. Chem.* **110**, 104781 (2021).
- Gao, L., Wang, K.-x., Zhou, Y.-z., et al. *Sci. Rep.* **8(1)**, 624 (2018).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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