

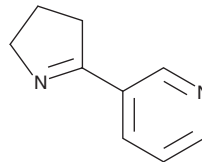
PRODUCT INFORMATION



Myosmine

Item No. 17908

CAS Registry No.: 532-12-7
Formal Name: 3-(3,4-dihydro-2H-pyrrol-5-yl)-pyridine
MF: C₉H₁₀N₂
FW: 146.2
Purity: ≥98%
UV/Vis.: λ_{max}: 234 nm
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥4 years
Item Origin: Synthetic



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

Laboratory Procedures

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

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

Description

(±)-Nicotine (Item No. 16535) is the racemic mixture of the dominant alkaloid found in tobacco plants. It acts as an agonist at neuronal nicotinic acetylcholine receptors (K_is = 481 and 11.1 nM for α3β4 and α4β2 subtypes, respectively) and possesses addictive and teratogenic properties.¹ Myosmine is a minor tobacco alkaloid that is structurally related to nicotine. It can also be found in a variety of other plants that are commonly eaten, including maize, rice, and potato.² Myosmine weakly binds to neuronal acetylcholine receptors (K_i = 3.3 μM).³ However, it can be nitrosated, giving rise to a DNA adduct.^{2,4,5}

References

1. Zaveri, N., Jiang, F., Olsen, C., *et al.* Novel α3β4 nicotinic acetylcholine receptor-selective ligands. Discovery, structure-activity studies, and pharmacological evaluation. *J. Med. Chem.* **53(22)**, 8187-8191 (2010).
2. Tyroller, S., Zwickenpflug, W., and Richter, E. New sources of dietary myosmine uptake from cereals, fruits, vegetables, and milk. *J. Agric. Food Chem.* **50(17)**, 4909-4915 (2002).
3. Ferretti, G., Dukat, M., Giannella, M., *et al.* Binding of nicotine and homoazanicotine analogues at neuronal nicotinic acetylcholinergic (nACh) receptors. *Bioorg. Med. Chem. Lett.* **13(4)**, 733-735 (2003).
4. Zwickenpflug, W., Tyroller, S., and Richter, E. Metabolism of myosmine in wistar rats. *Drug Metab. Dispos.* **33(11)**, 1648-1656 (2005).
5. Hecht, S.S., Han, S., Kenney, P.M.J., *et al.* Investigation of the reaction of myosmine with sodium nitrite *in vitro* and in rats. *Chem. Res. Toxicol.* **20(3)**, 543-549 (2007).

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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