PRODUCT INFORMATION

(-)-Cotinine
Item No. 15314

CAS Registry No.: 486-56-6
Formal Name: 1-methyl-5S-(3-pyridinyl)-2-pyrrolidinone
Synonym: NIH 10498
MF: C10H12N2O
FW: 176.2
Purity: ≥98%
UV/Vis.: λmax: 262 nm
Supplied as: A crystalline solid
Storage: -20°C
Stability: As supplied, 2 years from the QC date provided on the Certificate of Analysis, when stored properly

Laboratory Procedures

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

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 (-)-cotinine can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of (-)-cotinine in PBS, pH 7.2, is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Cotinine is a minor alkaloid found in tobacco plants and is a major metabolite of nicotine.1 It has a long pharmacological half-life (15-19 hours) compared to that of nicotine (2-3 hours) and is often used as a biomarker to detect tobacco use.2-4 Cotinine binds nicotinic- and muscarinic-type acetylcholine receptors with minimal receptor desensitization and demonstrates antipsychotic drug-like properties in behavioral models, neuroprotective properties in neurodegenerative disease models, and enhances attention in a delayed matching-to-sample task.2

References