

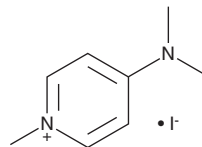
PRODUCT INFORMATION



4-(Dimethylamino)-1-methylpyridinium (iodide)

Item No. 25861

CAS Registry No.: 7538-79-6
Formal Name: 4-(dimethylamino)-1-methylpyridinium, monoiodide
MF: C₈H₁₃N₂ • I
FW: 264.1
Purity: ≥95%
UV/Vis.: λ_{max}: 216, 287 nm
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥4 years



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

Laboratory Procedures

4-(Dimethylamino)-1-methylpyridinium (iodide) is supplied as a crystalline solid. A stock solution may be made by dissolving the 4-(dimethylamino)-1-methylpyridinium (iodide) in the solvent of choice. 4-(Dimethylamino)-1-methylpyridinium (iodide) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide, which should be purged with an inert gas. The solubility of 4-(dimethylamino)-1-methylpyridinium (iodide) in these solvents is approximately 5, 10, 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 4-(dimethylamino)-1-methylpyridinium (iodide) can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of 4-(dimethylamino)-1-methylpyridinium (iodide) in PBS, pH 7.2, is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

4-(Dimethylamino)-1-methylpyridinium is a monoquaternary pyridinium salt with anticholinesterase and antiproliferative activities.^{1,2} It inhibits cholinesterase activity in rat brain homogenates with a K_d value of 33 μM and yeast choline kinase (ChoK) with an IC₅₀ value of 17 μM. 4-(Dimethylamino)-1-methylpyridinium also has antiproliferative activity against HT-29 colon cancer cells (IC₅₀ = 2 μM).²

References

1. Jun, D., Paar, M., Binder, J., *et al.* Preparation and *in vitro* evaluation of monoquaternary inhibitors of brain cholinesterases. *Lett. Org. Chem.* **6(6)**, 500-503 (2009).
2. Campos, J., del Carmen Núñez, M., Rodríguez, V., *et al.* LUMO energy of model compounds of bispyridinium compounds as an index for the inhibition of choline kinase. *Eur. J. Med. Chem.* **36(3)**, 215-225 (2001).

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.

WARRANTY AND LIMITATION OF REMEDY

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CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA

PHONE: [800] 364-9897
[734] 971-3335

FAX: [734] 971-3640

CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM