**PRODUCT INFORMATION**

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

**Item No. 25861**

**CAS Registry No.:** 7538-79-6  
**Formal Name:** 4-(dimethylamino)-1-methylpyridinium, monoidide  
**MF:** C_{8}H_{13}N_{2} \cdot I  
**FW:** 264.1  
**Purity:** ≥95%  
**UV/Vis.:** λ_{max} : 216, 287 nm  
**Supplied as:** A crystalline solid  
**Storage:** -20°C  
**Stability:** ≥2 years

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

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**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 IC_{50} value of 17 μM. 4-(Dimethylamino)-1-methylpyridinium also has antiproliferative activity against HT-29 colon cancer cells (IC_{50} = 2 μM).\(^{2}\)

**References**