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DATASHEET

Methylene Blue

Product overview

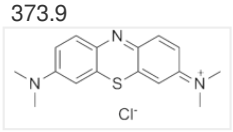
Name	Methylene Blue
Cat No	HB0409
Biological description	Biological dye, redox indicator and soluble guanylyl cyclase inhibitor. Reduces tau protein aggregation (IC_{50} = 1.9 µM). Also shows antimalarial, antioxidant and neuroprotective actions.
Biological action	Dyes & stains
Purity	>80%
Description	Biological dye, redox indicator and soluble guanylyl cyclase inhibitor

Images

Solubility & Handling

Storage instructions	Room temperature
Solubility overview	Soluble in water (50mg/ml), and in ethanol (70mg/ml)
Important	This product is for RESEARCH USE ONLY and is not intended for therapeutic or diagnostic use. Not for human or veterinary use.

Chemical Data

Chemical name	[7-(dimethylamino)phenothiazin-3-ylidene]-dimethylazanium chloride
Molecular Weight	373.9
Chemical structure	
Molecular Formula	$C_{16}H_{18}ClN_3S$
CAS Number	7220-79-3
PubChem identifier	104827
SMILES	CN(C)C1=CC2=C(C=C1)N=C3C=CC(=[N+](C)C)C=C3S2.O.O.O.[Cl-]
InChiKey	XQAXGZLFSSPBMK-UHFFFAOYSA-M
MDL number	MFCD00150006
Appearance	Green solid

References

Methylene blue reduced abnormal tau accumulation in P301L tau transgenic mice.

Hosokawa M *et al* (2012) PLoS One 7(12)
PubMedID 23285020

Inhibition of heparin-induced tau filament formation by phenothiazines, polyphenols, and porphyrins.

Taniguchi S *et al* (2005) J Biol Chem 280(9)
PubMedID 15611092

Efficacy of proveblue (methylene blue) in an experimental cerebral malaria murine model.

Dormoi J *et al* (2013) Antimicrob Agents Chemother 57(7)
PubMedID 23612202

Comparison of two soluble guanylyl cyclase inhibitors, methylene blue and ODQ, on sodium nitroprusside-induced relaxation in guinea-pig trachea.

Hwang TL *et al* (1998) Br J Pharmacol 125(6)
PubMedID 9863642