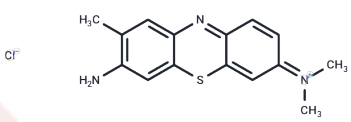
Data Sheet (Cat.No.T0312)

TargetMol

Toluidine Blue

Chemical Properties



CAS No. : 92-31-9

Formula: C15H16ClN3S

Molecular Weight: 305.83

Storage: Keep away from direct sunlight
Powder: -20°C for 3 years | In solvent: -80°C for 1 year
Actual storage temperature shall be subject to the COA.

Biological Description

Description	Toluidine Blue (Blutene chloride), a phenothiazine, is used as a biological stain, a hemostatic, and a dye for silk and wool. Blutene chloride is also used as a diagnostic aid for gastric neoplasms and oral, and used in the identification of the parathyroid gland in thyroid surgery.
Targets(IC50)	Others
Cell Research	I. Histological staining 1. Tissue section preparation: Cut tissue samples into thin slices and fix them. 2. Staining steps: Immerse the slices in Toluidine Blue solution, the common concentration is 0.05%-0.1%. 3. Staining time: Usually stain for 2-5 minutes and observe the staining effect. 4. Washing: After staining, wash the sample with water or PBS to remove excess dye. 5. Microscope observation: Use a microscope to examine the staining results. Toluidine Blue makes cell and tissue structures clearly visible, especially in acidic matrix components. II. Special staining 1. Add Toluidine Blue solution to tissue samples at the required concentration and time. 2. Depending on the experimental design, it may be necessary to combine acid-base treatment to enhance the staining effect. III. Staining of cells and organelles 1. Incubate cell samples or sections with Toluidine Blue solution. 2. Observe the staining pattern of cells and organelles under a fluorescence microscope. IV. Cancer research and histological pathological diagnosis 1. After processing the tumor tissue sections, stain them with Toluidine Blue to analyze the histological characteristics of the tumor. The above information is based on published literature. Experimental procedures should be appropriately modified to meet specific research demands.

Solubility Information

Solubility	DMSO: Slightly soluble, (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.2698 mL	16.349 mL	32.6979 mL
5 mM	0.654 mL	3.2698 mL	6.5396 mL
10 mM	0.327 mL	1.6349 mL	3.2698 mL
50 mM	0.0654 mL	0.327 mL	0.654 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Pandey R, et al. Deciphering the dose-dependent effects of thymoquinone on cellular proliferation and transcriptomic changes in A172 glioblastoma cells. PLoS One. 2025 Jan 28;20(1):e0318185.
Chen Y, Mu Z, Zuo J, Qing M, Zhou J, Bai L. A novel aptasensor integrating the DNA rolling nanomachine and Tb/COF/KB as dual signal amplifiers for kanamycin detection in foods. Food Chem. 2025 Feb 1;464(Pt 3):141853.
Benabdderrahmane K, et al. Biodegradation study in FBS media of polycaprolactone patch as a potential prenatal treatment for myelomeningocele. J Biomater Appl. 2025 Jan 29:8853282251316894.