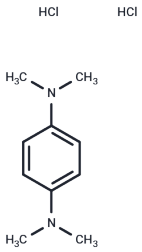
# Data Sheet (Cat.No.T40732)

TargetMol

## TMPD dihydrochloride

### Chemical Properties




CAS No. : 637-01-4

Formula: C10H18Cl2N2

Molecular Weight: 237.17

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 | TMPD dihydrochloride is an active substrate of enzymatically convert redox and an electron donor for the reduction of heme peroxidases. |
| Targets(IC50) | Others |
| In vitro | TMPD dihydrochloride differentiates organisms that exhibit CYP C oxidase activity and distinguishes between Gram-negative and Gram-positive pathogenic and non-pathogenic bacteria. TMPD dihydrochloride can be used as a colorimetric indicator[1]. |

### Solubility Information

| | |
|---|---|
| Solubility | H2O: 95 mg/mL (400.56 mM),Sonication is recommended.<br>DMSO: 13 mg/mL (54.81 mM),Sonication is recommended.<br>(< 1 mg/ml refers to the product slightly soluble or insoluble) |
| In vivo Formulation | 10% DMSO+90% Saline: 1 mg/mL (4.22 mM),Sonication is recommended.<br>*Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.* |

Preparing Stock Solutions

| | 1mg | 5mg | 10mg |
|---|---|---|---|
| 1 mM | 4.2164 mL | 21.0819 mL | 42.1638 mL |
| 5 mM | 0.8433 mL | 4.2164 mL | 8.4328 mL |
| 10 mM | 0.4216 mL | 2.1082 mL | 4.2164 mL |
| 50 mM | 0.0843 mL | 0.4216 mL | 0.8433 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

S Kuss, et al. Electrochemical recognition and quantification of cytochrome c expression in Bacillus subtilis and aerobe/anaerobe Escherichia coli using N, N, N', N'-tetramethyl- para-phenylene-diamine (TMPD). Chem Sci. 2017 Nov 1;8(11):7682-7688.

Nenad Petrovic, et al. Using N,N,N',N'-tetramethyl-p-phenylenediamine (TMPD) to assay cyclooxygenase activity in vitro. Methods Mol Biol. 2010;594:129-40.

Franco A Rossato, et al. Fatty acid synthase inhibitors induce apoptosis in non-tumorigenic melan-a cells associated with inhibition of mitochondrial respiration. PLoS One. 2014 Jun 25;9(6):e101060.