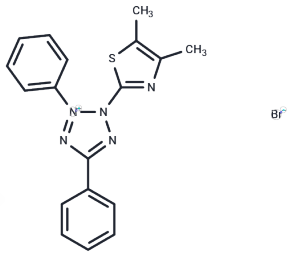
Data Sheet (Cat.No.T19029)

TargetMol

Thiazolyl Blue

Chemical Properties



CAS No. : 298-93-1

Formula: C18H16BrN5S

Molecular Weight: 414.32

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	Thiazolyl Blue (MTT) is a colorimetric compound extensively utilized to measure cell proliferation, transitioning from a yellow color to purple formazan in living cells.
Targets(IC50)	Others
Cell Research	Instructions 1. Reagent preparation: First, dissolve MTT in an appropriate solvent (usually PBS or saline), usually at a concentration of 0.5 mg/mL to 5 mg/mL, and the specific concentration can be adjusted according to the experimental needs. Remove insoluble matter by filtration or centrifugation to ensure that the solution is pure. 2. Operation steps 1. Cell treatment: Inoculate cells in a 96-well plate or other appropriate culture plate and culture to a suitable density (e.g. 1×10^4 to 1×10^6 cells/well). After the cell culture is completed, add a certain volume of MTT solution (usually 10 μL to 50 μL) to ensure that the final concentration in each well is 0.5 mg/mL to 1 mg/mL. 2. Incubate the cells with MTT, usually for 2 to 4 hours, and the specific time can be adjusted according to the experimental requirements. 3. Reaction treatment: After the incubation, remove the culture medium and add an appropriate amount of solvent (such as DMSO or isopropanol) to dissolve the purple formazan crystals formed. DMSO is a common solvent, and 100 μL to 200 μL of DMSO is usually added. Gently shake the plate to ensure complete dissolution. 4. Colorimetric assay: Use a microplate reader to measure the absorbance (OD value) of each well at a wavelength of 570 nm (or 590 nm). The purple formazan product is proportional to the number of viable cells, so the higher the absorbance value, the stronger the cell activity. The absorbance of each sample is obtained by calculating the difference in absorbance with the blank well. 5. Data analysis: 1) Based on the absorbance data, the proliferation rate or survival rate of the cells can be calculated. 2) The effect of drugs or chemical reagents on cells is often calculated by comparing the OD values between the control group and the treatment group. 3) The standard curve method can be used to further quantify the cell survival rate. Notes 1. Cell density: The inoculation density of cells should be appropriate. If the cells are too

Cell Research	dense, it may lead to excessive reaction and affect the experimental results; if the cell density is too low, it may not produce enough signal. 2. Solubility: When using DMSO or other solvents, make sure that the solvent is not toxic to the cells. 3. Time control: Too long or too short incubation time may affect the MTT reduction reaction, so the time needs to be optimized according to the cell type and experimental purpose. The above information is based on published literature. Experimental procedures should be appropriately modified to meet specific research demands.

Solubility Information

Solubility	DMSO: 50 mg/mL (120.68 mM),Sonication is recommended. H2O: 0.88 mg/mL (2.12 mM),Sonication and heating are recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween-80+45% Saline: 2.5 mg/mL (6.03 mM),Sonication is recommended. *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	2.4136 mL	12.068 mL	24.1359 mL
5 mM	0.4827 mL	2.4136 mL	4.8272 mL
10 mM	0.2414 mL	1.2068 mL	2.4136 mL
50 mM	0.0483 mL	0.2414 mL	0.4827 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

Zhao L, et al. Unveiling Diversity and Function: Venom-Associated Microbes in Two Spiders, Heteropoda venatoria and Chilobrachys guangxiensis. Microb Ecol. 2024 Dec 21;87(1):156.
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