

Dithizone

Chemical Properties

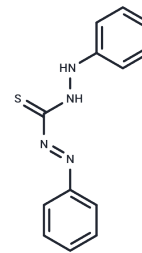
CAS No. : 60-10-6

Formula: C₁₃H₁₂N₄S

Molecular Weight: 256.33

Storage: Store under nitrogen, 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	Dithizone (Diphenylthiocarbazone, DTZ) is a sulphur-containing metal ligand for the separation and determination of trace metal ions. It possesses potential for inducing experimental diabetes and is also employed for islet staining.
Targets(IC50)	Others
In vitro	Dithizone (0.2 mM, 5-10 minutes) stains isolated canine and porcine islet cells red, whereas under the same conditions, bovine islet cells do not exhibit coloration [1]. When islet cells stained with Dithizone (0.4 mM) are subsequently exposed to 300 µg/mL of 8-hydroxyquinoline, the original staining gradually fades within 5-10 minutes [1]. Prolonged exposure of islet cells to Dithizone (20 µg/mL) for 4-48 hours results in decreased insulin secretion and induces islet cell death [1].

Solubility Information

Solubility	DMSO: 40 mg/mL (156.05 mM), Sonication is 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 mg/mL (7.8 mM), Sonication is recommended. <i>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.</i>

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.9012 mL	19.5061 mL	39.0122 mL
5 mM	0.7802 mL	3.9012 mL	7.8024 mL
10 mM	0.3901 mL	1.9506 mL	3.9012 mL
50 mM	0.078 mL	0.3901 mL	0.7802 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

Clark SA, et al. Staining and in vitro toxicity of dithizone with canine, porcine, and bovine islets. Cell Transplant. 1994 Jul-Aug;3(4):299-306.

M McNARY WF Jr. Dithizone staining of myeloid granules. Blood. 1957 Jul;12(7):644-8.

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