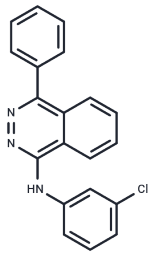
Data Sheet (Cat.No.T16164)

MY-5445

Chemical Properties



CAS No. : 78351-75-4

Formula: C20H14ClN3

Molecular Weight: 331.8

Storage: 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	MY-5445 (N-(3-chlorophenyl)-4-phenylphthalazin-1-amine) is a specific inhibitor of phosphodiesterase type 5 (PDE5). MY-5445 selectively inhibits cGMP PDE (Ki:1.3 μM).
Targets(IC50)	PDE
In vitro	in ABCG2-overexpressing cells, MY-5445 selectively reverses ABCG2-mediated multidrug resistance. MY-5445 reverses ABCG2-mediated multidrug resistance (MDR) by potentiating the cytotoxicity of an ABCG2 substrate drug in ABCG2-overexpressing multidrug-resistant cancer cells, possibly by modulating the function and/or the protein expression of ABCG2[2]. In the S1-M1-80 cell, MY-5445 (3 μM; 48 hours) substantially increases the topotecan-induced apoptosis[2].
In vivo	I.p administration of 0.5-3 mg/kg twice a day for 15 days) produces significant relief of mechanical hypersensitivity[3].

Solubility Information

Solubility	DMSO: 40 mg/mL (120.55 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+90% Corn Oil: 2 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	3.0139 mL	15.0693 mL	30.1386 mL
5 mM	0.6028 mL	3.0139 mL	6.0277 mL
10 mM	0.3014 mL	1.5069 mL	3.0139 mL
50 mM	0.0603 mL	0.3014 mL	0.6028 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

Nagendran J, et al. Phosphodiesterase type 5 is highly expressed in the hypertrophied human right ventricle, and acute inhibition of phosphodiesterase type 5 improves contractility. Circulation. 2007 Jul 17;116(3):238-48.
Souness JE, et al. Role of selective cyclic GMP phosphodiesterase inhibition in the myorelaxant actions of M&B 22,948, MY-5445, vinpocetine and 1-methyl-3-isobutyl-8-(methylamino)xanthine. Br J Pharmacol. 1989 Nov;98(3):725-34.
Maud Bollenbach, et al. Design and synthesis of 3-aminophthalazine derivatives and structural analogues as PDE5 inhibitors:anti-allodynic effect against neuropathic pain in a mouse model. Eur J Med Chem. 2019 Sep 1;177:269-290.