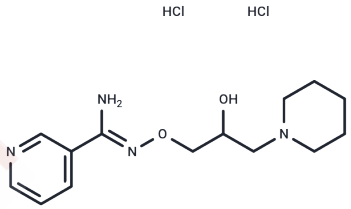
Data Sheet (Cat.No.T3649)

TargetMol

BGP-15

Chemical Properties



CAS No. : 66611-37-8

Formula: C14H24Cl2N4O2

Molecular Weight: 351.27

Storage: Store at low temperature
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	BGP-15 (BGP-15 2HCl) is a PARP inhibitor with protecting effect after ischemia-reperfusion injury.
Targets(IC50)	PARP
In vitro	In two mouse models developed to exhibit heart failure and atrial fibrillation, BGP-15 has been shown to enhance cardiac function and reduce arrhythmia [2]. Pretreatment with BGP-15 (100-200 mg/kg, p.o.) before cisplatin administration can either prevent or significantly inhibit the development of cisplatin-induced acute renal failure. BGP-15 demonstrates significant antioxidant effects on the kidneys in the context of cisplatin-induced nephrotoxicity. Despite BGP-15's ability to protect the kidneys from nephrotoxic effects, it does not diminish the antitumor efficacy of cytostatic agents. In the kidneys, BGP-15 inhibits cisplatin-induced poly(ADP-ribose) polymerization [1].
In vivo	BGP-15 acts as an in vitro inducer of HSP72, effective only when co-treated with heat shock, without affecting HSP90 levels. At a concentration of 200 μM, BGP-15 mitigates the depletion of high-energy phosphate compounds and prevents oxidative damage induced by imatinib mesylate. This is achieved by promoting the phosphorylation of Akt and GSK-3beta, and inhibiting the activation of p38 MAPK and JNK, thereby altering the signaling effects of imatinib mesylate. Moreover, BGP-15 significantly inhibits the activation of p38 and JNK, enzymes known to facilitate cell death and inflammatory responses in ex vivo perfused hearts.
Cell Research	Human tumor cell lines A549, HCT-15, HCT-116, and Du-145 were maintained in RPMI 1640 medium supplemented with 10% FCS in humidified air containing 5% CO2. For in vitro cytotoxicity assays, 5×103 to 5×104 cells were plated into the wells of 96-well plates in 100 μL culture medium. On the following day, cells were exposed to BGP-15 (10, 30, 100 μg/mL) and to a series of concentrations of cisplatin either by itself or in combination. Cultures were incubated in a total volume of 200 μL for 3 more days at 37°. Samples were prepared in duplicates or triplicates. Cell growth was evaluated by MTT or SRB assays. Growth inhibition curves were calculated. (Only for Reference)

Solubility Information

Solubility	H2O: 64 mg/mL (182.2 mM),Sonication is recommended. Ethanol: 65 mg/mL (185.04 mM),Sonication is recommended. DMSO: 65 mg/mL (185.04 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 (5.69 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	2.8468 mL	14.2341 mL	28.4681 mL
5 mM	0.5694 mL	2.8468 mL	5.6936 mL
10 mM	0.2847 mL	1.4234 mL	2.8468 mL
50 mM	0.0569 mL	0.2847 mL	0.5694 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

Racz I, et al. Biochem Pharmacol. 2002, 63(6):1099-111.
Sapra G, et al. Nat Commun. 2014, 5:5705.
Chung J, et al. Proc Natl Acad Sci U S A. 2008, 105(5):1739-44.
Sarszegi Z, et al. Mol Cell Biochem. 2012, 365(1-2):129-37.
Salah H, et al. The chaperone co-inducer BGP-15 alleviates ventilation-induced diaphragm dysfunction. Sci Transl Med. 2016 Aug 3;8(350):350ra10