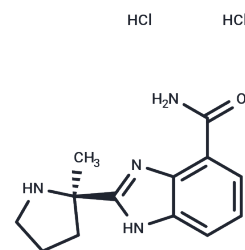


Veliparib dihydrochloride

Chemical Properties

CAS No. :	912445-05-7
Formula:	C ₁₃ H ₁₈ Cl ₂ N ₄ O
Molecular Weight:	317.21
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	Veliparib dihydrochloride (ABT-888 dihydrochloride) is a potent inhibitor of PARP1 and PARP2 with K_i of 5.2 nM and 2.9 nM in cell-free assays, respectively. It is inactive to SIRT2.
Targets(IC50)	Autophagy,PARP
In vitro	Veliparib demonstrates inactivity towards SIRT2 at concentrations greater than 5 μ M[1] and exhibits potent inhibition of PARP activity, with an EC_{50} of 2 nM in C41 cells[2]. It effectively reduces PAR levels in H460 cells, regardless of irradiation status, and significantly impairs clonogenic survival by hindering DNA repair via PARP-1 inhibition. Additionally, when used in conjunction with radiation, Veliparib promotes apoptosis and autophagy in H460 cells[3]. Its ability to inhibit PARP activity extends to H1299, DU145, and 22RV1 cells, a process not influenced by p53 function. At a concentration of 10 μ M, Veliparib diminishes the surviving fraction in clonogenic H1299 cells by 43%, enhancing radiosensitivity, particularly in oxygen-rich environments. Furthermore, it reduces the surviving fraction in H1299, DU145, and 22RV1 cells under hypoxic-irradiated conditions[4], confirming its role in sensitizing cancer cells to radiation by targeting PARP-dependent mechanisms.
In vivo	Veliparib exhibits an oral bioavailability ranging from 56% to 92% across different species, including mice, SD rats, beagle dogs, and cynomolgus monkeys[1]. At a dosage of 25 mg/kg (i.p.), it enhances tumor growth delay in NCI-H460 xenograft models and, when combined with radiation, decreases tumor vessel formation[3]. Additionally, Veliparib significantly reduces intratumor PAR levels by over 95% at dosages of 3 and 12.5 mg/kg in A375 and Colo829 xenograft models, with this suppression sustained over time[4].
Kinase Assay	PARP assays are conducted in a buffer containing 50 mM Tris (pH 8.0), 1 mM DTT, 1.5 μ M [3H]NAD ⁺ (1.6 μ Ci/mmol), 200 nM biotinylated histone H1, 200 nM sDNA, and 1 nM PARP-1 or 4 nM PARP-2 enzyme. Reactions are terminated with 1.5 mM benzamide, transferred to streptavidin Flash plates, and counted using a TopCount microplate scintillation counter.

Solubility Information

A DRUG SCREENING EXPERT

Solubility	DMSO: 3.2 mg/mL (10.09 mM), Sonication is recommended. H2O: 50 mg/mL (157.62 mM), Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
------------	--

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.1525 mL	15.7624 mL	31.5249 mL
5 mM	0.6305 mL	3.1525 mL	6.305 mL
10 mM	0.3152 mL	1.5762 mL	3.1525 mL
50 mM	0.063 mL	0.3152 mL	0.6305 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

Donawho CK, et al. ABT-888, an orally active poly(ADP-ribose) polymerase inhibitor that potentiates DNA-damaging agents in preclinical tumor models. Clin Cancer Res. 2007 May 1;13(9):2728-37.

Penning TD, et al. Discovery of the Poly(ADP-ribose) polymerase (PARP) inhibitor 2-[(R)-2-methylpyrrolidin-2-yl]-1 H-benzimidazole-4-carboxamide (ABT-888) for the treatment of cancer. J Med Chem. 2009 Jan 22;52(2):514-23.

Albert JM, et al. Inhibition of poly(ADP-ribose) polymerase enhances cell death and improves tumor growth delay in irradiated lung cancer models. Clin Cancer Res. 2007 May 15;13(10):3033-42.

Robert J. Kinders, et al. Preclinical Modeling of a Phase 0 Clinical Trial: Qualification of a Pharmacodynamic Assay of Poly (ADP-Ribose) Polymerase in Tumor Biopsies of Mouse Xenografts. Clin Cancer Res. Author manuscript; available in PMC 2009 Nov 1.

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

This product is for Research Use Only · Not for Human or Veterinary or Therapeutic Use

Tel: 781-999-4286 E_mail: info@targetmol.com Address: 34 Washington Street, Wellesley Hills, MA 02481