

LB100

Chemical Properties

CAS No. : 1632032-53-1

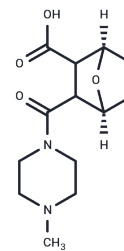
Formula: C₁₃H₂₀N₂O₄

Molecular Weight: 268.31

Store at low temperature

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	LB100 (LB-100) is a water soluble protein phosphatase 2A (PP2A) inhibitor.
Targets(IC50)	Phosphatase
In vitro	In xenograft mouse models of pancreatic cancer, LB-100 (2 mg/kg, i.p.) enhances the therapeutic efficacy of the chemotherapy agent doxorubicin. LB-100 increases both the blood flow velocity on the tumor surface and the microvascular density of the tumor.
In vivo	Compared to the control group, LB-100 significantly increased the intracellular concentration of doxorubicin by approximately 2.5 times, enhancing the tumor cells' sensitivity to doxorubicin. Additionally, LB-100 amplified the secretion of vascular endothelial growth factor, thereby promoting angiogenesis mediated by HIF-1 α -VEGF. LB-100 also demonstrated a notable inhibitory effect on the growth of BxPc-3 (IC ₅₀ : 2.3 μ M) and Panc-1 (IC ₅₀ : 1.7 μ M) cells. Following treatment with LB-100, a reduction of 30-50% in PP2A activity was observed in BxPc-3, SW1990, and Panc-1 tumor cells.
Kinase Assay	PP2A activity assays: Cultured pancreatic cancer cells are treated with IC ₅₀ of LB-100 for each cell line or equal volume of vehicle for 2 hours, and PP2A activity assays are then performed using Ser/Thr phosphatase assay kit. Cells are lysed with an ultrasonic cell disruptor, and the PP2A concentration is measured using a Ser/Thr phosphatase assay kit according to the instructions. Assays for each cell line are performed in triplicate.
Cell Research	Cytotoxicity is conducted by using a Cell Counting Kit-8. Cells are seeded in 96-well plates with a density of 3000 cells per well and are assessed after treatments following the CCK-8 protocol. Relative cytotoxicity is expressed as a percentage of specific controls. (Only for Reference)

Solubility Information

Solubility	H ₂ O: 67.5 mg/mL (251.57 mM), Sonication is recommended. DMSO: < 1 mg/mL (insoluble or slightly soluble), Ethanol: < 1 mg/mL (insoluble or slightly soluble), (< 1 mg/ml refers to the product slightly soluble or insoluble)
------------	--

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.727 mL	18.6352 mL	37.2703 mL
5 mM	0.7454 mL	3.727 mL	7.4541 mL
10 mM	0.3727 mL	1.8635 mL	3.727 mL
50 mM	0.0745 mL	0.3727 mL	0.7454 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

Bai X, et al. Inhibition of protein phosphatase 2A sensitizes pancreatic cancer to chemotherapy by increasing drug perfusion via HIF-1 α -VEGF mediated angiogenesis. *Cancer Lett.* 2014 Oct 7. pii: S0304-3835(14)00589-8.

Zhang J, Cen L, Zhang X, et al. MPST deficiency promotes intestinal epithelial cell apoptosis and aggravates inflammatory bowel disease via AKT. *Redox Biology.* 2022: 102469.

Bai XL, et al. Inhibition of protein phosphatase 2A enhances cytotoxicity and accessibility of chemotherapeutic drugs to hepatocellular carcinomas. *Mol Cancer Ther.* 2014 Aug;13(8):2062-72.

Fu QH, et al. LB-100 sensitizes hepatocellular carcinoma cells to the effects of sorafenib during hypoxia by activation of Smad3 phosphorylation. *Tumour Biol.* 2016 Jun;37(6):7277-8

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