

ABX-1431

Chemical Properties

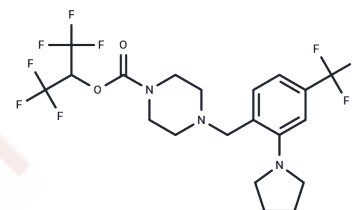
CAS No. : 1446817-84-0

Formula: C₂₀H₂₂F₉N₃O₂

Molecular Weight: 507.39

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	ABX-1431 (Elcubragistat) is a selective and orally available CNS-penetrant monoacylglycerol lipase (MAGL/MGLL) inhibitor (IC ₅₀ : 14 nM).
Targets(IC ₅₀)	MAGL,Lipase
In vitro	ABX-1431 was a potent human MGLL inhibitor (average IC ₅₀ = 0.014 μM) with >100-fold selectivity against ABHD6 and >200-fold selectivity against PLA2G7. Treatment of intact human PC3 cells with ABX-1431 following a 30-minute inhibitor incubation time caused concentration-dependent inhibition of MGLL activity with an IC ₅₀ value of 0.0022 μM, which is ~6-fold more potent than that observed in vitro. In the cell-based assay, >100-fold selectivity for MGLL over ABHD6 (IC ₅₀ = 0.253 μM) and PLA2G7 (IC ₅₀ = 494 μM) was maintained.
In vivo	In vivo, ABX-1431 inhibits MGLL activity in rodent brain (ED ₅₀ = 0.5-1.4 mg/kg), increases brain 2-AG concentrations, and suppresses pain behavior in the rat formalin pain model.
Cell Research	Human prostate cancer PC3 cells were grown in F-12K medium supplemented with 10% fetal bovine serum at 37°C with 5% CO ₂ to ~80% confluency in 100 mm dishes. ABX-1431 was added to cells to give final concentration of 0.1-10 μM compound in serum free media. Cells were incubated with compound for 30 min at 37°C with 5% CO ₂ . Cells were washed, harvested, and lysed by probe sonication. Cell lysates (2mg/mL) were treated with JW912 (1μM) and analyzed by SDS-PAGE and in-gel fluorescence scanning.
Animal Research	All animals were 6-8 weeks old at the time of study and weighed between 197-217 g. Animals (n = 3 per dosing route) were dosed with ABX-1431 at 1 mg/kg iv (in 70% polyethylene glycol (PEG) 400 in hydroxypropyl-β-cyclodextran (HPBCD) in saline) or 5 mg/kg po (in 70% PEG 400 in 0.5% carboxymethylcellulose (CMC, w/v) in saline). Animals were fasted overnight, and food withheld until 4 h post dose. Approximately 100 μL of blood were collected via a jugular vein catheter at 0.033, 0.083, 0.25, 0.5, 1, 2, 4, 6, 8, and 24 h after intravenous and 0.25, 0.5, 1, 2, 4, 6, 8, and 24 h after oral administration. All blood samples were collected into tubes containing 400 μL acetonitrile to immediately inactivate blood esterase activity and frozen at -80 °C. Samples were thawed and centrifuged (14,000 rpm for 5 min at 4 °C) and the supernatant transferred for LCMS analysis.

Solubility Information

Solubility	Ethanol: 10 mg/mL (19.71 mM),Sonication is recommended. DMSO: 55 mg/mL (108.4 mM),Sonication is recommended. H2O: Insoluble, (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween-80+45% Saline: 2.5 mg/mL (4.93 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	1.9709 mL	9.8544 mL	19.7087 mL
5 mM	0.3942 mL	1.9709 mL	3.9417 mL
10 mM	0.1971 mL	0.9854 mL	1.9709 mL
50 mM	0.0394 mL	0.1971 mL	0.3942 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

Cisar JS, et al. Identification of ABX-1431, a Selective Inhibitor of Monoacylglycerol Lipase and Clinical Candidate for Treatment of Neurological Disorders. J Med Chem. 2018 Oct 25;61(20):9062-9084.

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