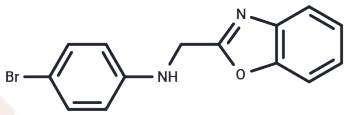
Data Sheet (Cat.No.T86565)

TargetMol

HDL-16

Chemical Properties



CAS No. : 2373280-36-3

Formula: C14H11BrN2O

Molecular Weight: 303.15

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	HDL-16 is a highly effective P2Y14R antagonist with anti-colitis effects, targeting P2Y14R in intestinal epithelial cells to alleviate ulcerative colitis.
Targets(IC50)	Necroptosis,P2Y Receptor
In vitro	HDL-16 is a potent P2Y14R antagonist with an IC50 of 0.3095 nM. HDL-16 forms hydrogen bonds with Tyr102 residues through the N atom on its benzooxazole ring and its amine group with His184 residues of P2Y14R. At a concentration of 10μM, HDL-16 showed very low cytotoxicity to HT-29 cells. In addition, HDL-16 effectively inhibited HT-29 cells under specific conditions (20ng/mL TNF-α, 20μM z-VAD-fmk and Smac analog BV6, 2μM; Necrotic apoptosis lasting 8 hours).
In vivo	HDL-16 significantly inhibited colitis symptoms in mice and maintained the integrity of the intestinal barrier in mice . The experimental animal models were 7-8 week-old male WT mice with P2Y 14 R fl/ FLvil-CRE (P2Y 14 R ΔIEC), P2Y 14 R fl/fl Lyz2-cre and C57BL/6 J background . The dose is 10 μM or 20 μM and is administered rectum daily for 6 days. The results showed that the weight loss and disease activity index (DAI) of mice in the high-dose group were significantly lower than those exposed to 3% w/v, 36-50 kDa DSS (7 days after drinking water). High dose improved the inflammatory infiltration and tissue damage induced by DSS, and significantly inhibited the cell necrosis of intestinal epithelial cells in DSS treated mice.[1]

Solubility Information

Solubility	DMSO: 80 mg/mL (263.9 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+90% Corn Oil: 3.3 mg/mL (10.89 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	3.2987 mL	16.4935 mL	32.987 mL
5 mM	0.6597 mL	3.2987 mL	6.5974 mL
10 mM	0.3299 mL	1.6493 mL	3.2987 mL
50 mM	0.066 mL	0.3299 mL	0.6597 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

Liu C, et al. Targeting P2Y14R protects against necroptosis of intestinal epithelial cells through PKA/CREB/RIPK1 axis in ulcerative colitis. Nat Commun. 2024 Mar 7;15(1):2083.