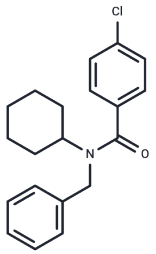
Data Sheet (Cat.No.T3259)

TargetMol

FPS-ZM1

Chemical Properties



CAS No. : 945714-67-0

Formula: C20H22ClNO

Molecular Weight: 327.85

Storage: Keep away from moisture
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	FPS-ZM1 is a high-affinity, RAGE-specific inhibitor that obstructs Aβ binding to the V domain of RAGE.
Targets(IC50)	Beta Amyloid,Advanced Glycation End Products
In vitro	FPS-ZM1 blocks Aβ binding to the V domain of RAGE and inhibited Aβ40- and Aβ42-induced cellular stress in RAGE-expressing cells in vitro. It blocks binding of other ligands to RAGE as well, such as S100B, AGE, and HMGB1, which have been suggested to contribute to RAGE-mediated long-term tissue damage in models of diabetes, immune/inflammatory disorders, and AD[1].
In vivo	FPS-ZM1 is nontoxic to mice and readily crossed the blood-brain barrier (BBB).It effectively controls progression of an Aβ-mediated brain disorder and the related neurovascular and cognitive dysfunction in 17-month-old APPsw/0 mice with fully developed Aβ and amyloid pathology by blocking RAGE actions at the BBB and in brain. Also, FPS-ZM1 blocks RAGE-dependent BACE1 expression and activity in brain of 17-month-old APPsw/0 mice[1].
Kinase Assay	Human sRAGE is immobilized (10 μg/mL) overnight at 4°C in 96-well microtiter plates and blocked with 3% bovine serum albumin. 125I-labeled Aβ40, HMGB1, or S100B at 5 nM in the absence and presence of various concentrations of FPS2 or FPS-ZM1 (10 to 1,000 nM) is added to the wells containing immobilized sRAGE and incubated for 1 hour at room temperature in PBS. Wells are washed with cold PBS to remove unbound radiolabeled ligands, and the radioactivity is analyzed[1].
Cell Research	CHO cells are treated for 72 hours with different concentrations of inhibitors ranging from 10 nM to 10 μM. The cellular toxicity was determined using the WST-8 Assay Kit. (Only for Reference)

Solubility Information

Solubility	DMSO: 257.5 mg/mL (785.42 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 (6.1 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	3.0502 mL	15.2509 mL	30.5018 mL
5 mM	0.610 mL	3.0502 mL	6.1004 mL
10 mM	0.305 mL	1.5251 mL	3.0502 mL
50 mM	0.061 mL	0.305 mL	0.610 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

Deane R, et al. J Clin Invest. 2012, 122(4):1377-1392.
He C, Sun S, Zhang Y, et al. The role of irreversible electroporation in promoting M1 macrophage polarization via regulating the HMGB1-RAGE-MAPK axis in pancreatic cancer. OncoImmunology. 2021 Mar 11;10(1):1897295. doi: 10.1080/2162402X.2021.1897295.
Shou C, Sun Y, Zhang Q, et al.S100A9 Inhibition Mitigates Acute Pancreatitis by Suppressing RAGE Expression and Subsequently Ameliorating Inflammation.Inflammation.2024: 1-12.
He C, Sun S, Zhang Y, et al. The role of irreversible electroporation in promoting M1 macrophage polarization via regulating the HMGB1-RAGE-MAPK axis in pancreatic cancer[J]. OncoImmunology. 2021, 10(1): 1897295.