GSK2193874

Catalog No.C13372 Batch:C1337203

Product Datasheet

Technical Data

Formula	$C_{37}H_{38}BrF_3N_4O$					
Molecular Weight	691.62	**CAS No.**	1336960-13-4			
Solubility (25°C)*	In vitro	DMSO	100 mg/mL (144.58 mM)			
		Ethanol	50 mg/mL (72.29 mM)			
		Water	Insoluble			
	In vivo (Add solvents to the product individually and in order)	Oral Administration	Homogeneous suspension	CMC-NA	≥5mg/ml	Taking the 1 mL working solution as an example, add 5 mg of this product to 1 ml of CMC-Na solution, mix evenly to obtain a homogeneous suspension with a final concentration of 5 mg/ml.

* <1 mg/ml means slightly soluble or insoluble.
* Please note that Capsid Bio tests the solubility of all compounds in-house, and the actual solubility may differ slightly from published values. This is normal and is due to slight batch-to-batch variations.
* Room temperature shipping (Stability testing shows this product can be shipped at 2-8°C for storage purposes.)

Preparing Stock Solutions

Concentration \ Volume \ Mass	1 mg	5 mg	10 mg
1 mM	1.4459 mL	7.2294 mL	14.4588 mL
5 mM	0.2892 mL	1.4459 mL	2.8918 mL
10 mM	0.1446 mL	0.7229 mL	1.4459 mL
50 mM	0.0289 mL	0.1446 mL	0.2892 mL

Biological Activity

Description	GSK2193874 is an orally active, potent, and selective blocker of **transient receptor potential vanilloid 4 (TRPV4)** with IC50 values of 0.04 and 0.002 μM for hTRPV4 and rTRPV4, respectively.
Targets	rTRPV4 [1] (Cell-free assay): 0.002 μM hTRPV4 [1] (Cell-free assay): 0.04 μM
In vitro	GSK2193874 is profiled against TRP channels and is selective against TRPV1, TRPA1, TRPC3, TRPC6, and TRPM8 (IC50 > 25 μM)[1]. Treatment of human umbilical vein endothelial cells (HUVECs) with this compound dose-dependently prevents the cellular contraction and detachment induced by TRPV4 activation with GSK1016790[2].
In vivo	The pharmacokinetic (PK) properties for GSK2193874 are evaluated in both rat and dog and found to have half-lives and oral exposure suitable for oral dosing in chronic animal models (Rat PK: iv CL = 7.3 mL/min/kg, po t1/2 = 10 h, %F =31. Dog PK: iv CL = 6.9 mL/min/kg, po t1/2 = 31 h, %F = 53). In addition, this compound shows no blood pressure or heart rate effect in rats when dose up to 30 mg/kg. It demonstrates to has the ability to improve pulmonary functions in a number of heart failure models[1]. In both acute and chronic HF models, this compound pretreatment inhibits the formation of pulmonary edema and enhanced arterial oxygenation. TRPV4 blockade with this chemical provides protection against the development of pulmonary edema and the resulting deficits in arterial oxygenation in HF models in vivo. This compound preserves endothelial cell integrity and inhibits endothelial TRPV4 currents while providing protection from formation of pulmonary edema in isolated lungs and in HF models[2].

Protocol (from reference)

Cell Assay:[2]

- **Cell lines**
  Stably transfected hTRPV4 HEK cells (CG27) and HUVECs
- **Concentrations**
  1-30 nM(extracellularly); 0.03-10 uM(intracellularly)
- **Incubation Time**
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- **Method**
  TRPV4 HEK cells were pretreated with GSK2193874, extracellularly (1-30 nM) by application to the bathing solution, or intracellularly (0.03-10 uM) by inclusion in the pipette solution. Ramp currents were elicited between -60 and +60 mV and peak outward current at +60 mV was assessed after TRPV4 activation with GSK634775 (100 nM) added to the bath. In HUVECs, ramp currents were elicited between -80 and +80 mV and measured at + 60 mV, and the TRPV4 activator GSK1016790 (30 nM) was bath applied to activate TRPV4 followed by this compound (300 nM).

Animal Study:[2]

- **Animal Models**
  Adult male Sprague-Dawley rats
- **Dosages**
  30 mg/kg
- **Administration**
  via oral gavage

References

http://pubs.acs.org/doi/abs/10.1021/acsmedchemlett.7b00094 https://pubmed.ncbi.nlm.nih.gov/23136043/

RETURN POLICY

Capsid Bio's Unconditional Return Policy ensures a smooth online shopping experience for our customers. If you are in any way unsatisfied with your purchase, you may return any item(s) within 7 days of receiving it. In the event of product quality issues, either protocol related or product related problems, you may return any item(s) within 365 days from the original purchase date. Please follow the instructions below when returning products.

SHIPPING & STORAGE

Capsid Bio products are transported at room temperature. If you receive the product at room temperature, please rest assured, the Capsid Bio Quality Inspection Department has conducted experiments to verify that the normal temperature placement of one month will not affect the biological activity of powder products. After collecting, please store the product according to the requirements described in the datasheet. Most Capsid Bio products are stable under the recommended conditions.

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