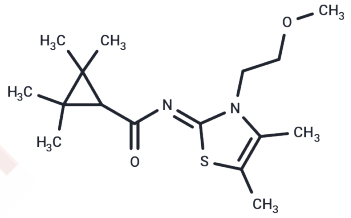
Data Sheet (Cat.No.T7375)

TargetMol

A-836339

Chemical Properties



CAS No. : 959746-77-1

Formula: C16H26N2O2S

Molecular Weight: 310.45

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	A-836339 acts as a potent cannabinoid receptor full agonist which has a higher affinity for the peripheral CB2 receptor (Ki = 0.64 nM) over the central CB1 receptor (Ki = 270 nM). It displays analgesic, anti-inflammatory, and anti-hyperalgesic effects in mice.
Targets(IC50)	Cannabinoid Receptor
In vivo	A-836339 was characterized extensively in various animal pain models. In the complete Freund's adjuvant model of inflammatory pain, A-836339 exhibits a potent CB(2) receptor-mediated antihyperalgesic effect that is independent of CB(1) or mu-opioid receptors. A-836339 has also demonstrated efficacies in the chronic constrain injury (CCI) model of neuropathic pain, skin incision, and capsaicin-induced secondary mechanical hyperalgesia models. Furthermore, no tolerance was developed in the CCI model after subchronic treatment with A-836339 for 5 days[1].
Animal Research	The plantar aspect of the rat left hind paw was exposed through a hole in a sterile plastic drape, and a 1-cm longitudinal incision was made through the skin and fascia, starting 0.5 cm from the proximal edge of the heel and extending toward the toes. The plantaris muscle was elevated and incised longitudinally, leaving the muscle origin and insertion points intact. After homeostasis by application of gentle pressure, the skin was apposed with two mattress sutures using 5-0 nylon. Animals were then allowed to recover for 2 or 24 h after surgery, at which time mechanical allodynia was assessed.To test drug effects, rats were first acclimated for 20 min in inverted individual plastic containers (20*12.5*20 cm) on top of a suspended wire mesh grid, and A-836339 was injected intraperitoneally 30 min before testing for mechanical allodynia using calibrated von Frey filaments . von Frey filaments were presented perpendicularly to the plantar surface of the selected hind paw and then held in this position for approximately 8 s, with enough force to cause a slight bend of the filament. Positive responses included an abrupt withdrawal of the hind paw from the stimulus or flinching behavior immediately after removal of the stimulus. A 50% withdrawal threshold was determined using an up-down procedure[1].

Solubility Information

Solubility	DMSO: 12 mg/mL (38.65 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: 0.5 mg/mL (1.61 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	3.2211 mL	16.1057 mL	32.2113 mL
5 mM	0.6442 mL	3.2211 mL	6.4423 mL
10 mM	0.3221 mL	1.6106 mL	3.2211 mL
50 mM	0.0644 mL	0.3221 mL	0.6442 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

Characterization of a Cannabinoid CB2 Receptor-Selective Agonist, A-836339 [2,2,3,3-Tetramethyl-cyclopropanecarboxylic Acid [3-(2-Methoxy-ethyl)-4,5-dimethyl-3H-thiazol-(2Z)-ylidene]-amide], Using in Vitro Pharmacological Assays, in Vivo Pain Models, and Pharmacological Magnetic Resonance Imaging[J]. Journal of Pharmacology and Experimental Therapeutics, 2009, 328(1):141-151.

Mcgaraughty S , Chu K M , Yao B , et al. A CB 2, receptor agonist, A-836339, modulates wide dynamic range neuronal activity in neuropathic rats: Contributions of spinal and peripheral CB 2, receptors[J]. Neuroscience, 2009, 158(4):1652-1661.