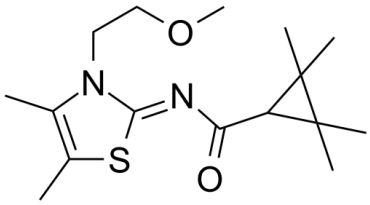
Data Sheet

Product Name:	A-836339
Cat. No.:	CS-3960
CAS No.:	959746-77-1
Molecular Formula:	C16H26N2O2S
Molecular Weight:	310.45
Target:	Cannabinoid Receptor
Pathway:	GPCR/G Protein; Neuronal Signaling
Solubility:	DMSO : 12 mg/mL (38.65 mM; Need ultrasonic and warming)



BIOLOGICAL ACTIVITY:

A-836339 is a cannabinoid CB2 receptor-selective agonist; exhibits high potencies at CB(2) and selectivity over CB(1) receptors. IC50 value: 1.6 nM(EC50) [1] Target: CB2 agonist in vitro: In radioligand binding assays, A-836339 displays high affinities at CB(2) receptors and selectivity over CB(1) receptors in both human and rat.In addition A-836339 exhibits a profile devoid of significant affinity at other G-protein-coupled receptors and ion channels [1]. in vivo: 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 [1]. Similar to systemic delivery, intra-spinal injection of A-836339 (0.3 and 1 nmol) also attenuated both von Frey-evoked and spontaneous firing of WDR neurons in neuropathic rats. Intra-spinal injections of A-836339 were ineffective in sham rats [2]. Systemic A-836339 and AM1241 produced dose-dependent efficacy in both inflammatory and neuropathic pain models. Local administration of CB agonists also produced significant analgesic effects in SNL (intra-DRG and i.t.) and CFA (intra-DRG) pain models [3].

PROTOCOL (Extracted from published papers and Only for reference)

Radioligand Binding Assays [1]: Membrane preparation from HEK cells stably expressing the human CB2, rat CB2, or rat CB1 receptor and Chinese hamster ovary cells stably expressing the human CB1 receptor and competition binding assays were performed. After incubation at 30°C for 90 min, the reaction was terminated by rapid vacuum filtration through UniFilter-96 GF/C filter plates (PerkinElmer Life and Analytical Sciences, Waltham, MA) and four washes with cold assay buffer. Nonspecific binding was defined by 10 µM unlabeled CP 55,940. Ki values and 95% confidence intervals were calculated from competition binding assays with one-site competition curve fitting using the Prism software (GraphPad Software Inc., San Diego, CA). Animal administration [1]: In brief, rats were habituated for 20 min in individual plastic cubicles mounted on a glass surface maintained at 30°C. A thermal stimulus generated from a focused projection bulb (4.50 ± 0.05 amps) was applied to the plantar surface of each hind paw, with maximum exposure limited to 20.48 s to limit possible tissue damage. The elapsed time until a brisk withdrawal of the hind paw from the thermal stimulus was recorded automatically using photodiode motion sensors. The right and left hind paw of each rat was tested in three sequential trials at approximately 5-min intervals. Paw withdrawal latency (PWL) was calculated as the mean of the two shortest latencies. PWL was measured 30 min after A-836339 administration in both the CFA-treated and uninjured paw.

References:

[1]. Yao BB, et al. 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 Pharmacol Exp Ther. 2009 Jan;328(1):141-51.

[2]. McGaraughty S, 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. Neuroscience. 2009 Feb 18;158(4):1652-61.

[3]. Hsieh GC, et al. Central and peripheral sites of action for CB? receptor mediated analgesic activity in chronic inflammatory and neuropathic pain models in rats. Br J Pharmacol. 2011 Jan;162(2):428-40.

CAIndexNames:

Cyclopropanecarboxamide, N-[3-(2-methoxyethyl)-4,5-dimethyl-2(3H)-thiazolylidene]-2,2,3,3-tetramethyl-, [N(Z)]-

SMILES:

CC1=C(C)S/C(N1CCOC)=N\C(C2C(C)(C)C2(C)C)=O

Caution: Product has not been fully validated for medical applications. For research use only.

Tel: 732-484-9848 Fax: 888-484-5008 E-mail: sales@ChemScene.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA