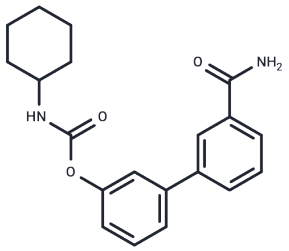
Data Sheet (Cat.No.T6714)

TargetMol

URB-597

Chemical Properties



CAS No. : 546141-08-6

Formula: C20H22N2O3

Molecular Weight: 338.4

Storage: Store at low temperature
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	URB-597 (FAAH Inhibitor II) is an effective, orally bioavailable FAAH inhibitor (IC50: 4.6 nM), and no effect on other cannabinoid-related targets.
Targets(IC50)	Mitophagy,FAAH,Autophagy
In vitro	URB597 binds in the hydrophobic pocket and catalytic core of FAAH that connects the active site residues to the membrane surface of FAAH. [1] URB597 inhibits FAAH activity in human liver microsomes with IC50 of 3 nM. [2] URB597 reduces the expression of the LPS-induced enzymes cyclo-oxygenase 2 (COX-2) and inducible nitric oxide synthase (iNOS; NOS2) in primary rat microglial cell, with a concomitant reduction in the release of the inflammatory mediators prostaglandin E2 (PGE2) and (NO) nitric oxide. [3] URB597 evokes Ca2+ entry in HEK293-F Cells transiently expressing human or rat TRPA1 gene. URB597 also activates Ca2+ entry in rat DRG neurons natively expressed TRPA1 channels. [4]
In vivo	URB597 inhibits [3H]anandamide hydrolysis in rat brain membranes with a parallel increase in brain anandamide, OEA, and PEA content by inhibition of FAAH. URB597 enhances the hypothermia effect induced by ethanolamide by inhibiting FAAH. [5] When delivered intraperitonealy (0.3 mg/kg) URB597 reduces allodynia and hyperalgesia through cannabinoid CB1 and CB2 receptor-mediated analgesia in rats with inflammatory pain. [6] URB597 reduces the reduction in body weight gain and sucrose intake induced by the chronic mild stress in rats through inhibition of brain FAAH activity. [7] URB597 could reverse most depressive-like symptoms induced by adolescent THC exposure in femal rats. [8]

Solubility Information

Solubility	H2O: < 1 mg/mL (insoluble or slightly soluble), Ethanol: 5 mg/mL (14.78 mM),Sonication is recommended. DMSO: 245 mg/mL (724 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: 10 mg/mL (29.55 mM),Sonication is recommended. *Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one.*

In vivo Formulation	*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	2.9551 mL	14.7754 mL	29.5508 mL
5 mM	0.591 mL	2.9551 mL	5.9102 mL
10 mM	0.2955 mL	1.4775 mL	2.9551 mL
50 mM	0.0591 mL	0.2955 mL	0.591 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

Mor M, et al. J Med Chem, 2004, 47(21), 41998-52008.
Zhou L, Tian M, Zhang B, et al.Lysosome targeting fluorescent probe for NAAA imaging and its applications in the drug development for anti-inflammatory.International Journal of Biological Macromolecules.2024: 130307.
Piomelli D, et al. CNS Drug Rev, 2006, 12(1), 21-38.
Tham CS, et al. FEBS Lett, 2007, 581(16), 2899-2904.
Niforatos W, et al. Mol Pharmacol, 2007, 71(5), 1209-1216.
Fegley D, et al. J Pharmacol Exp Ther, 2005, 313(1), 352-358.

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