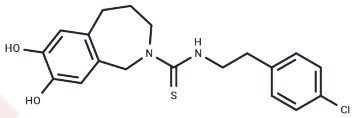
Data Sheet (Cat.No.T7177)

TargetMol

Capsazepine

Chemical Properties



CAS No. : 138977-28-3

Formula: C19H21ClN2O2S

Molecular Weight: 376.9

Storage: Store at low temperature,Keep away from direct sunlight
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	Capsazepine is an antagonist of TRPV1 receptor (IC50 : 562 nM). Capsazepine blocks the painful sensation of heat caused by capsaicin (the active ingredient of chilli pepper) which activates the TRPV1 ion channel. It is therefore considered to be a capsaicin antagonist.
Targets(IC50)	Apoptosis,TRP/TRPV Channel
In vivo	Capsazepine is a synthetic analogue of capsaicin that can function as an antagonist of TRPV1.?Capsazepine can exhibit diverse effects on cancer (prostate cancer, breast cancer, colorectal cancer, oral cancer, and osteosarcoma) growth and survival, and can be therapeutically used against other major disorders such as colitis, pancreatitis, malaria, and epilepsy.?Capsazepine has been reported to exhibit pleiotropic anti-cancer effects against numerous tumor cell lines.?Capsazepine can modulate Janus activated kinase (JAK)/signal transducer and activator of the transcription (STAT) pathway, intracellular Ca2+ concentration, and reactive oxygen species (ROS)-JNK-CCAAT/enhancer-binding protein homologous protein (CHOP) pathways.?It can inhibit cell proliferation, metastasis, and induce apoptosis.?Moreover, capsazepine can exert anti-inflammatory effects through the downregulation of lipopolysaccharide (LPS)-induced nuclear transcription factor-kappa B (NF-κB), as well as the blockage of activation of both transient receptor potential cation channel subfamily V member 1 (TRPV1) and transient receptor potential cation channel, subfamily A, and member 1 (TRPA1)[1].

Solubility Information

Solubility	DMSO: 104 mg/mL (275.94 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: 5 mg/mL (13.27 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	2.6532 mL	13.2661 mL	26.5322 mL
5 mM	0.5306 mL	2.6532 mL	5.3064 mL
10 mM	0.2653 mL	1.3266 mL	2.6532 mL
50 mM	0.0531 mL	0.2653 mL	0.5306 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

Yang MH, Jung SH, Sethi G,et al.Pleiotropic Pharmacological Actions of Capsazepine, a Synthetic Analogue of Capsaicin, against Various Cancers and Inflammatory Diseases[J].Molecules. 2019 Mar 12;24(5). pii: E995.
Lu J, Zhou W, Dou F, et al. TRPV1 sustains microglial metabolic reprogramming in Alzheimer's disease. EMBO reports. 2021, 22(6): e52013.
Sung B , Prasad S , Ravindran J , et al. Capsazepine, a TRPV1 antagonist, sensitizes colorectal cancer cells to apoptosis by TRAIL through ROS-JNK-CHOP-mediated upregulation of death receptors[J]. Free radical biology & medicine, 2012, 53(10).