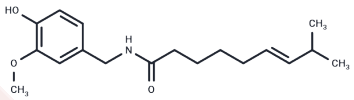
Data Sheet (Cat.No.T1062)

TargetMol

Capsaicin

Chemical Properties



CAS No. : 404-86-4

Formula: C18H27NO3

Molecular Weight: 305.41

Storage: Keep away from direct sunlight,Keep away from moisture
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	Capsaicin is an active natural component found in chili peppers and acts as a TRPV1 agonist (EC50 = 0.29 μM). It possesses multiple activities, including pain relief, antitumor, anti-inflammatory, antioxidant, and neuroprotective effects, as well as some neurotoxicity. Capsaicin can be used to establish itch models.
Targets(IC50)	Apoptosis,Autophagy,TRP/TRPV Channel
In vitro	**METHODS**: Human pharyngeal squamous carcinoma cells FaDu were treated with Capsaicin (50-300 μM) for 24-72 h. Cell viability was assayed using MTT Assay. **RESULTS**: As the dose of Capsaicin increased, a decrease in enhanced cell growth was shown. Percentage of viable cells decreased with increase in incubation time. The IC50 value was about 150 μM. [1] **METHODS**: Human oral epidermoid carcinoma cells KB were treated with Capsaicin (150-250 μM) for 24-48 h. Apoptosis was detected using Hoechst staining. **RESULTS**: Capsaicin induced apoptosis in KB cells. [2]
In vivo	**METHODS**: To investigate the effects on thermoregulation and locomotor activity, Capsaicin (10-20 mg/kg, saline+3% ethanol+10% Tween 80) was administered by single gavage to C57BL/6J mice with WT and TRPV1 KO. **RESULTS**: Oral administration of capsaicin resulted in a long-term increase in TRPV1-dependent acute hypothermia and TRPV1-independent locomotor activity, in addition to activation of brain circuits controlling thermoregulation and metabolism. [3] **METHODS**: To assay neuroprotective activity, Capsaicin (5-20 mg/kg) was administered orally to mice given scopolamine once daily for seven days. **RESULTS**: Capsaicin exerted empirical neuroprotective effects through restoration of mitochondrial function, antioxidant effects and modulation of pro-inflammatory cytokines. A 10 mg/kg dose of Capsaicin for seven consecutive days was the most effective dose. [4]
Cell Research	Capsaicin is dissolved in DMSO and stored, and then diluted with appropriate medium before use[3]. FaDu cells are plated at a density of 1×105 cells/well on 24-well plate. After overnight growth, the cells are treated with various concentrations of Capsaicin (0 μM, 50 μM, 100 μM, 150 μM, 200 μM, 250 μM, 300 μM, and 350 μM) for 24, 48 and 72 hours, with medium replacement every 24 hours. At the end of treatment, 30 μL of the tetrazolium compound MTT, and 270 μL of fresh medium are added. After further

Cell Research	incubation for 4 hours at 37°C, 200 μL of 0.1 N HCl in 10% SDS is added into each well to dissolve the tetrazolium crystals. Finally, the absorbance at a wavelength of 540 nm is recorded using an ELISA plate reader[3].

Solubility Information

Solubility	DMSO: 260 mg/mL (851.31 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+90% Saline: 1.53 mg/mL (5.01 mM),Solution. *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	3.2743 mL	16.3714 mL	32.7429 mL
5 mM	0.6549 mL	3.2743 mL	6.5486 mL
10 mM	0.3274 mL	1.6371 mL	3.2743 mL
50 mM	0.0655 mL	0.3274 mL	0.6549 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

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