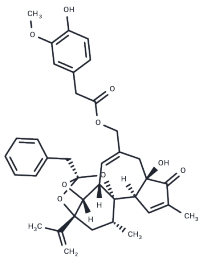
Data Sheet (Cat.No.T34295)

TargetMol

Resiniferatoxin

Chemical Properties



CAS No. : 57444-62-9

Formula: C37H40O9

Molecular Weight: 628.71

Storage: Store at low temperature,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	Resiniferatoxin ((+)-Resiniferatoxin) is a highly potent synthetic TRPV1 agonist that inhibits the production of Th1 cytokines and has anti-inflammatory activity, reducing serum levels of IL-12, INF-γ, IL-1β, TNF-α, NO, and PGE.
Targets(IC50)	IL Receptor,TRP/TRPV Channel
In vitro	**METHODS**: RAW264.7 cells were treated with LPS (100 ng/ml) and IFN-γ (3 ng ml–1) and then treated with Resiniferatoxin ((+)-Resiniferatoxin) (0.01, 0.1, 1, 10.24 h). The culture medium was collected for NO determination, and the cell lysates were subjected to SDS-PAGE to measure and quantify iNOS or COX-2 immunoreactivity. **RESULTS** At a concentration of 10 μM, Resiniferatoxin ((+)-Resiniferatoxin) inhibited LPS-induced NO production by 67±10% and 52±6%, respectively, and failed to affect LPS-induced COX-2 and PGE2 responses. [3]
In vivo	**METHODS**: Resiniferatoxin ((+)-Resiniferatoxin) (2 μg/10 μl) was injected intrathecally into the T2/T3 space of mice. Cardiac sympathetic nerve activity (CSNA) and cardiac electrophysiology were assessed two weeks later. **RESULTS** Intrathecal injection of Resiniferatoxin ((+)-Resiniferatoxin) significantly and selectively eliminated the expression of dorsal horn afferent markers (TRPV1 and calcitonin gene-related peptide) and reduced overactive CSNA. Electrophysiological studies have shown that intrathecal administration of Resiniferatoxin ((+)-Resiniferatoxin) can significantly reverse the prolongation of action potential duration (APD) and APD alternating hormones and reduce the inducibility of ventricular arrhythmias. [4]

Solubility Information

Solubility	DMSO: 32 mg/mL (50.9 mM) (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 1 mg/mL (1.59 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*

In vivo Formulation	*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	1.5906 mL	7.9528 mL	15.9056 mL
5 mM	0.3181 mL	1.5906 mL	3.1811 mL
10 mM	0.1591 mL	0.7953 mL	1.5906 mL
50 mM	0.0318 mL	0.1591 mL	0.3181 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

Parisi JR, et al. Antiallodynic effect of intrathecal resiniferatoxin on neuropathic pain model of chronic constriction injury. Acta Neurobiol Exp (Wars). 2017;77(4):317-322.
Muñoz-Carrillo JL, et al. Therapeutic Effects of Resiniferatoxin Related with Immunological Responses for Intestinal Inflammation in Trichinellosis. Korean J Parasitol. 2017 Dec;55(6):587-599.
Chen CW, et al. Signal transduction for inhibition of inducible nitric oxide synthase and cyclooxygenase-2 induction by capsaicin and related analogs in macrophages. Br J Pharmacol. 2003 Nov;140(6):1077-87.
Wu Y, et al. Resiniferatoxin reduces ventricular arrhythmias in heart failure via selectively blunting cardiac sympathetic afferent projection into spinal cord in rats. Eur J Pharmacol. 2020 Jan 15;867:172836.