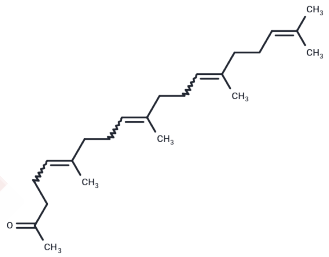
Data Sheet (Cat.No.T5008)

TargetMol

Teprenone

Chemical Properties



CAS No. : 6809-52-5

Formula: C23H38O

Molecular Weight: 330.55

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	Teprenone (Geranylgeranylacetone) is a anti-ulcer drug, and works as an inducer of heat shock proteins (HSPs).
Targets(IC50)	HSP
In vitro	Teprenone, known as Geranylgeranylacetone, is an inducer of Heat Shock Proteins (HSPs) and, at a concentration of 1 μM, notably mitigates ethanol-induced exfoliation and lowers lactate dehydrogenase (LDH) release in gastric mucosal cells. This compound elevates the HSC70 level over time and rapidly boosts stress-inducible HSP90, HSP70, and HSP60 concentrations within 30-60 minutes, also activating heat shock factor 1. At dosages ranging from 0 to 20 μM, Teprenone marginally increases the viability of human umbilical vein endothelial cells (HUVEC) post-irradiation (IR), and while 10 μM of Teprenone does not affect HUVEC migration and invasion, it notably promotes HUVEC tube formation and wound healing, with or without IR exposure. Furthermore, at this concentration, Teprenone fosters angiogenesis by inducing VEGF and eNOS expression in HUVECs.
In vivo	Teprenone (200 mg/kg, p.o.) upregulates HSP70 mRNA in rats, a process amplified by mucosal stress in Teprenone-pretreated versus vehicle-pretreated rats. It significantly reduces stress-induced ulcer formation after 2 and 4 hours in rats[1]. Teprenone also enhances HSP72 expression, mitigates RGC loss, optic nerve damage, and apoptosis, and boosts HSP72 levels in a rat glaucoma model[2]. Additionally, Teprenone protects against radiation-induced intestinal injury in mice.

Solubility Information

Solubility	DMSO: 25 mg/mL (75.63 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+90% Corn Oil: 2 mg/mL (6.05 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	3.0253 mL	15.1263 mL	30.2526 mL
5 mM	0.6051 mL	3.0253 mL	6.0505 mL
10 mM	0.3025 mL	1.5126 mL	3.0253 mL
50 mM	0.0605 mL	0.3025 mL	0.6051 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

Caprioli J, et al. Retinal ganglion cell protection with geranylgeranylacetone, a heat shock protein inducer, in a rat glaucoma model. Trans Am Ophthalmol Soc. 2003;101:39-50; discussion 50-1.
Han NK, et al. Geranylgeranylacetone Ameliorates Intestinal Radiation Toxicity by Preventing Endothelial Cell Dysfunction. Int J Mol Sci. 2017 Oct 7;18(10).
Hirakawa T, et al. Geranylgeranylacetone induces heat shock proteins in cultured guinea pig gastric mucosal cells and rat gastric mucosa. Gastroenterology. 1996 Aug;111(2):345-57.

Tel:781-999-4286 E_mail:info@targetmol.com Address:34 Washington Street,Wellesley Hills,MA 02481