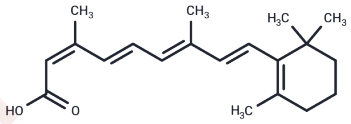
Data Sheet (Cat.No.T1611)

TargetMol

Isotretinoin

Chemical Properties



CAS No. : 4759-48-2

Formula: C20H28O2

Molecular Weight: 300.44

Appearance: no data available

Storage: Pure form: -20°C for 3 years

Biological Description

Description	Isotretinoin (13-cis-Retinoic acid) binds to and activates nuclear retinoic acid receptors (RARs), which act as transcription factors that promote cell differentiation and apoptosis. This naturally occurring retinoic acid has potential antineoplastic activity, exhibits immunomodulatory and anti-inflammatory responses, and inhibits ornithine decarboxylase, thereby decreasing polyamine synthesis and keratinization.
Targets(IC50)	Retinoid Receptor,Endogenous Metabolite,Autophagy
In vitro	Isotretinoin directly interferes with the development of cranial neural crest cells. [1] Isotretinoin selectively affects neural crest cells by decreasing their cell-substratum adhesion. [2]
In vivo	Isotretinoin (500 ng/mL) and its main metabolite in the human, 4-oxo-isotretinoin, induce malformations similar to those seen in vivo. [1] Isotretinoin impairs explicit memory in Stage 2, but retention tests one month after Isotretinoin exposure ended, indicated recovery from this explicit memory impairment and evidence of enhanced implicit memory in the 10 mg and 15 mg ISO rats. [3] Isotretinoin slows the recovery of rod signaling after exposure to an intense bleaching light, and that rhodopsin regeneration is markedly slowed. Isotretinoin is also found to protect rat photoreceptors from light-induced damage. [4] Isotretinoin blocks the formation of A2E biochemically and the accumulation of lipofuscin pigments by electron microscopy. Isotretinoin also blocks the slower, age-dependent accumulation of lipofuscin in wild-type mice. [5]

Solubility Information

Solubility	Ethanol: 1 mg/mL (3.33 mM),Heating is recommended. (The compound is unstable in solution, please use soon.) DMSO: 45 mg/mL (149.78 mM),Sonication is recommended. (The compound is unstable in solution, please use soon.) (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.3285 mL	16.6423 mL	33.2845 mL
5 mM	0.6657 mL	3.3285 mL	6.6569 mL
10 mM	0.3328 mL	1.6642 mL	3.3285 mL
50 mM	0.0666 mL	0.3328 mL	0.6657 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.

Reference

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Dopheide MM, et al. Pharmacol Biochem Behav, 2008, 91(2), 243-251.
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