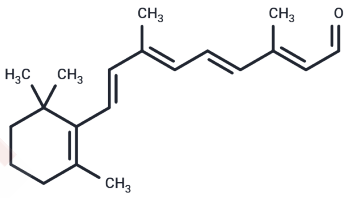
Data Sheet (Cat.No.T5256)

TargetMol

All-trans-retinal

Chemical Properties



CAS No. : 116-31-4

Formula: C20H28O

Molecular Weight: 284.44

Storage: Store at low temperature,The compound is unstable in solution. Please use soon
Powder: -20°C for 3 years
Actual storage temperature shall be subject to the COA.

Biological Description

Description	All-trans-retinal (Vitamin A aldehyde) is a one of the major vitamin A metabolites in the retina. All-trans-RAL is regenerated to the visual chromophore, 11-cis-retinal in physiological conditions.
Targets(IC50)	Apoptosis,Endogenous Metabolite

Solubility Information

Solubility	Ethanol: 25 mg/mL (87.89 mM),Sonication is recommended. (The compound is unstable in solution, please use soon.) DMSO: 240 mg/mL (843.76 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: 2 mg/mL (7.03 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	3.5157 mL	17.5784 mL	35.1568 mL
5 mM	0.7031 mL	3.5157 mL	7.0314 mL
10 mM	0.3516 mL	1.7578 mL	3.5157 mL
50 mM	0.0703 mL	0.3516 mL	0.7031 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

Sawada O, et al. All-trans-retinal induces Bax activation via DNA damage to mediate retinal cell apoptosis. Exp Eye Res. 2014 Jun;123:27-36.

Bi G, Liang J, Shan G, et al.Retinol saturase mediates retinoid metabolism to impair a ferroptosis defense system in cancer cells.Cancer Research.2023: CAN-22-3977.