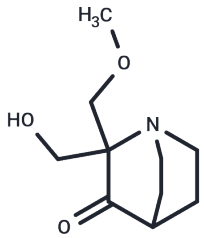
Data Sheet (Cat.No.T4414)

TargetMol

Eprenetapopt

Chemical Properties



CAS No. : 5291-32-7

Formula: C10H17NO3

Molecular Weight: 199.25

Storage: 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	Eprenetapopt (PRIMA-1Met) restores wild-type conformation and function to mutant p53, and triggers apoptosis in tumor cells. PRIMA-1MET also targets the selenoprotein thioredoxin reductase 1 (TrxR1), a key regulator of cellular redox balance.
Targets(IC50)	Apoptosis,Ferroptosis,Reductase,Autophagy,p53,MDM-2/p53
In vitro	APR-246 inhibits both recombinant TrxR1 in vitro and TrxR1 in cells. Cellular TrxR1 activity is inhibited by APR-246 irrespective of p53 status. APR-246 can directly affect cellular redox status via targeting of TrxR1. Several small molecules have been shown to restore wild-type activity to mutant p53, including CP-31398, PRIMA-1 and APR-246 (PRIMA-1MET), MIRA, STIMA, PhiKan-083 and NSC319726. PRIMA-1 and its methylated analog APR-246 promote correct folding of mutant p53, induce cell death by apoptosis, and inhibit tumor growth in mice. APR-246 has also been shown to reactivate mutant forms of the p63 and p73 proteins that share high structural homology with p53. PRIMA-1MET is a powerful apoptosis-inducing agent. PRIMA-1MET can enhance apoptosis in mutant p53 carrying cells, compared to the p53 null parental cells. Most p53 mutants are in complex with Hsp70 proteins. PRIMA-1MET treatment increases Hsp70 expression and nucleolar translocation, in parallel with the induction of nucleolar accumulation of mutant p53. Several lines of evidence suggest that PRIMA-1MET can also act independently of the p53 status of the cell. It can radiosensitize prostate carcinoma cell lines with mutant or wild type p53 and p53-/- cells as well. Introduction of mutant p53 (p53ser249 or p53 gln248) into p53-/- hepatocarcinoma cells increases sensitivity to PRIMA-1MET without the induction of p53 target genes. PRIMA-1MET regularly induces apoptosis in mutant p53 expressing cells.
Kinase Assay	Cells are plated in six-well plates at a density of 15?000 cells per cm2. Next day, cells are treated with different concentrations of APR-246 (0, 25, 50, 75 and 100 μM) and harvested after 4, 12 and 24?h. The cells are lysed, and the clarified supernatants are used for either analysis of TrxR enzymatic activities or western blot. Total protein concentrations are determined with a Bradford reagent kit. Cellular TrxR activity is measured using an adapted Trx-dependent end point insulin reduction assay for microwell plates.

Solubility Information

Solubility	H2O: 100 mg/mL (501.88 mM) DMSO: 126.25 mg/mL (633.63 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 (10.04 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	5.0188 mL	25.0941 mL	50.1882 mL
5 mM	1.0038 mL	5.0188 mL	10.0376 mL
10 mM	0.5019 mL	2.5094 mL	5.0188 mL
50 mM	0.1004 mL	0.5019 mL	1.0038 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

Peng X,etal.APR-246/PRIMA-1MET inhibits thioredoxin reductase 1 and converts the enzyme to a dedicated NADPH oxidase.Cell Death Dis. 2013 Oct 24;4:e881.

Stuber G,etal.PRIMA-1MET induces nucleolar translocation of Epstein-Barr virus-encoded EBNA-5 protein.Mol Cancer. 2009 Mar 26;8:23.