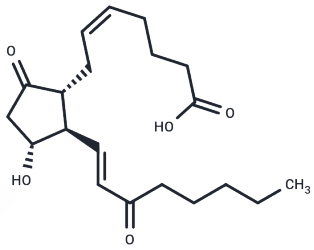
Data Sheet (Cat.No.T78582)

TargetMol

15-keto-Prostaglandin E2

Chemical Properties



CAS No. : 26441-05-4

Formula: C20H30O5

Molecular Weight: 350.45

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	15-keto-Prostaglandin E2 is an endogenous bioactive metabolite that inhibits STAT3 activation through covalent interaction with the Cys259 residue, while also binding to and stabilizing EP2 and EP4 receptors, thereby exerting inhibitory effects on breast cancer cell growth and tumor progression, activating PPAR-γ signaling, and promoting fungal growth, collectively positioning this lipid mediator as a multifunctional regulator in cancer biology, immunometabolism, and host-pathogen interaction research.
Targets(IC50)	Endogenous Metabolite,STAT,PPAR,Prostaglandin Receptor
In vivo	In a mouse xenograft model using MDA-MB-231 cells, intraperitoneal (i.p.) injection of 15-keto-Prostaglandin E2 suppressed tumor growth, resulting in reduced tumor volume and weight. This reduction correlates with the downregulation of p-STAT3 and Cyclin D1 levels in the tumor tissues [1].

Solubility Information

Solubility	DMSO: 80 mg/mL (228.28 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.8535 mL	14.2674 mL	28.5347 mL
5 mM	0.5707 mL	2.8535 mL	5.7069 mL
10 mM	0.2853 mL	1.4267 mL	2.8535 mL
50 mM	0.0571 mL	0.2853 mL	0.5707 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

Lee EJ, et al. 15-Keto prostaglandin E2 suppresses STAT3 signaling and inhibits breast cancer cell growth and progression. Redox Biol. 2019 May;23:101175.
Kourpa A, et al. 15-keto-Prostaglandin E2 exhibits bioactive role by modulating glomerular cytoarchitecture through EP2/EP4 receptors. Life Sci. 2022 Dec 1;310:121114.
Evans RJ, et al. 15-keto-prostaglandin E2 activates host peroxisome proliferator-activated receptor gamma (PPAR-γ) to promote Cryptococcus neoformans growth during infection. PLoS Pathog. 2019 Mar 28;15(3):e1007597.