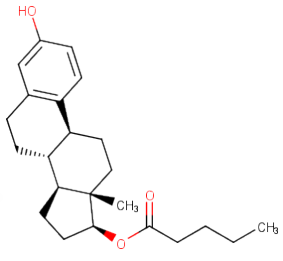
Data Sheet (Cat.No.T0135)

TargetMol

Estradiol valerate

Chemical Properties



CAS No. : 979-32-8

Formula: C23H32O3

Molecular Weight: 356.51

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	β-estradiol 17-valerate (EV) is a synthetic estrogen. In hormone replacement therapy drugs, it is widely used in combination with other steroid hormones.
Targets(IC50)	Estrogen Receptor/ERR,Androgen Receptor
In vitro	Estradiol (10 nM) rapidly activates sphingosine kinase isoenzyme SphK1 as determined by enhanced phosphorylation on Ser225 in MCF-7 cells. Estradiol (20 nM) stimulates rapid release of sphingosine 1-phosphate (S1P) and dihydro-S1P from MCF-7 cells. SphK1 and estrogen receptor α are mainly responsible for formation of S1P and dihydro-S1P. Down-regulation of ABCC1 or ABCG2 with siRNAs or pharmacological inhibitors decreases Estradiol (10 nM)-mediated release of S1P or dihydro-S1P from MCF-7 cells. [1] Estradiol (10 nM) inhibits miR-21 expression in MCF-7 human breast cancer cells mediated by estrogen receptor α. Estradiol (10 nM) activates several miR-21 target gene reporters activity in MCF-7 cells through inhibiting miR-21 expression. Estradiol (10 nM) increases endogenous miR-21 target genes expression in protein but not RNA levels in MCF-7 cells. [2]
In vivo	Estradiol (80 μg/kg/day, s.c.) significantly decreases the absolute numbers of total peritoneal cell and macrophages, characterized by a double F4/80- and CD11b-positive staining, in ovariectomized C57BL/6J mice. Estradiol (80 μg/kg/day, s.c.) enhances the LPS-induced expression of proinflammatory cytokines by TGC-elicited macrophages through inhibition of PI3K activity in ovariectomized C57BL/6J mice. Proinflammatory effect of Estradiol is abolished by downregulate estrogen receptor α activity in thioglycolate-elicited macrophages. [3]

Solubility Information

Solubility	H2O: <1 mg/mL, DMSO: 66 mg/mL (185.13 mM),Sonication is recommended. Ethanol: <1 mg/mL, (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween-80+45% Saline: 2.5 mg/mL (7.01 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*

In vivo Formulation	*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	2.805 mL	14.0249 mL	28.0497 mL
5 mM	0.561 mL	2.805 mL	5.6099 mL
10 mM	0.2805 mL	1.4025 mL	2.805 mL
50 mM	0.0561 mL	0.2805 mL	0.561 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

Takabe K, et al. J Biol Chem, 2010, 285(14), 10477-10486.
Wickramasinghe NS, et al. Nucleic Acids Res, 2009, 37(8), 2584-2595.
Calippe B, et al. J Immunol, 2010, 185(2), 1169-1176.
Moorthy K, et al. Exp Gerontol, 2005, 40(4), 295-302.