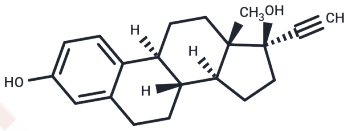
Data Sheet (Cat.No.T1424)

TargetMol

Ethynyl estradiol

Chemical Properties



CAS No. : 57-63-6

Formula: C20H24O2

Molecular Weight: 296.40

Storage: Keep away from moisture,Keep away from direct sunlight,Store under nitrogen
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	Ethynyl estradiol is a semisynthetic alkylated ESTRADIOL with a 17-alpha-ethinyl substitution. It has high estrogenic potency when administered orally, and is often used as the estrogenic component in ORAL CONTRACEPTIVES.
Targets(IC50)	Estrogen Receptor/ERR,Estrogen/progestogen Receptor,Endogenous Metabolite
In vitro	Ethinyl Estradiol increases respiratory chain activity in both cultured rat hepatocytesand HepG2 cells. Ethinyl estradiol is a strong promoter of hepatocarcinogenesis. [1] Ethinyl Estradiol enhances the transcript levels of nuclear genome- and mitochondrial genome-encoded genes and respiratory chain activity in female rat liver, and also inhibits transforming growth factor beta (TGFbeta)-induced apoptosis in cultured liver slices and hepatocytes from female rats. Ethinyl Estradiol increases the transcript levels of the mitochondrial genome-encoded genes cytochrome oxidase subunits I, II, and III in cultured female rathepatocytes. Ethinyl Estradiol significantly increases both the levels of glutathione (reduced [GSH] and oxidized [GSSG] forms) per mg protein in mitochondria and nuclei, while the percentage of total glutathione in the oxidized form is not affected. [2]
In vivo	Ethinyl Estradiol (50 mg/kg/day) increases anogenital distance and reduces pup body weight at postnatal day 2, accelerates the age at vaginal opening, reduces F1 fertility and F2 litter sizes, and induces malformations of the external genitalia (5 mg/kg) in the female Long-Evans rat. [3] Ethinyl Estradiol increases the number of low density lipoprotein (LDL) receptors in livers of rats, thereby producing a profound fall in plasma cholesterol levels. Ethinyl Estradiol exerts the same effect in livers of male and female rabbits and that the increase in receptor number is correlated with a 6- to 8-fold increase in the levels of receptor mRNA. [4]

Solubility Information

Solubility	DMSO: 120 mg/mL (404.86 mM),Sonication is recommended. Ethanol: 55 mg/mL (185.56 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: 3.3 mg/mL (11.13 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	3.3738 mL	16.8691 mL	33.7382 mL
5 mM	0.6748 mL	3.3738 mL	6.7476 mL
10 mM	0.3374 mL	1.6869 mL	3.3738 mL
50 mM	0.0675 mL	0.3374 mL	0.6748 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

Chen J, et al. Toxicol Sci,1999, 51(2), 224-235.
Sun H, Su X, Liu Y, et al.Roseburia intestinalis relieves intrahepatic cholestasis of pregnancy through bile acid/FXR-FGF15 in rats.iScience.2023: 108392.
Chen J, et al. Toxicol Sci,2003, 75(2), 271-278.
Ryan BC, et al. Toxicol Sci,2010, 114(1), 133-148.
Ma PT, et al. Proc Natl Acad Sci U S A,1986, 83(3), 792-796.