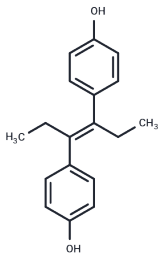
Data Sheet (Cat.No.T1216)

TargetMol

Diethylstilbestrol

Chemical Properties



CAS No. : 56-53-1

Formula: C18H20O2

Molecular Weight: 268.35

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	Diethylstilbestrol (DES) is used in the treatment of menopausal and postmenopausal disorders.
Targets(IC50)	Apoptosis,Estrogen Receptor/ERR,Estrogen/progestogen Receptor,Autophagy
In vitro	Diethylstilbestrol promotes coactivator release from orphan nuclear receptor ERR beta and inhibits its transcriptional activity in trophoblast stem cells. [1]
In vivo	Diethylstilbestrol treated pregnant mice exhibits abnormal early placenta development associated with an overabundance of trophoblast giant cells and an absence of diploid trophoblast. [1] Diethylstilbestrol causes epigenetic methylation changes that result in persistent alterations in gene expression, leading to tumorigenesis in mouse uterus. Diethylstilbestrol induces c-fos exon-4 hypomethylation at postnatal day 17 in mice uterus, while elevating its mRNA level from postnatal day 5. Diethylstilbestrol exposure leads to hypomethylation in the exon-4 region of c-fos mRNA. [2] Diethylstilbestrol-treated rats exhibits more pronounced delay in maturational development of an adult pattern of immunoexpression of the three proteins compared with GnRHa-treated rats. Diethylstilbestrol results in similar reductions in both Sertoli cell numbers and suppression of testicular growth at 18 and 25 days, though by 35 days the suppression is more pronounced in DES-treated rats. [3] Diethylstilbestrol treatment appears to imprint an abnormal, site-specific demethylation of CpG/-464, which requires ovarian hormones to occur in adult mice. [4] Diethylstilbestrol (2.0 ng/g) per day increases adult prostate weight, whereas a 200 ng/g dose decreases adult prostate weight in male offspring mice. [5]

Solubility Information

Solubility	DMSO: 100 mg/mL (372.65 mM),Sonication is recommended. Ethanol: 50 mg/mL (186.32 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.7265 mL	18.6324 mL	37.2648 mL
5 mM	0.7453 mL	3.7265 mL	7.453 mL
10 mM	0.3726 mL	1.8632 mL	3.7265 mL
50 mM	0.0745 mL	0.3726 mL	0.7453 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

Tremblay GB, et al. Genes Dev,2001, 15(7), 833-838.
Li S, et al. Mol Carcinog,2003, 38(2), 78-84.
Sharpe RM, et al. Biol Reprod,1998, 59(5), 1084-1094.
Li S, et al. Cancer Res,1997, 57(19), 4356-4359.
vom Saal FS, et al. Proc Natl Acad Sci U S A,1997, 94(5), 2056-2061.