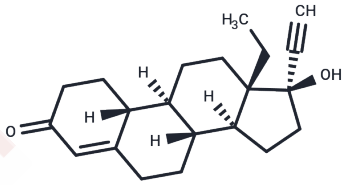
Data Sheet (Cat.No.T1263)

TargetMol

Levonorgestrel

Chemical Properties



CAS No. : 797-63-7

Formula: C21H28O2

Molecular Weight: 312.45

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	Levonorgestrel (D-Norgestrel) is a Progestin and Progestin-containing Intrauterine Device. The physiologic effect of levonorgestrel is by means of Inhibit Ovum Fertilization.
Targets(IC50)	Apoptosis,Bcl-2 Family,Estrogen/progestogen Receptor,Caspase,Progesterone Receptor,Survivin
In vitro	Levonorgestrel significantly upregulates mRNA expression of the gene encoding luteinizing hormone beta subunit (lhβ) in both male and female cockroaches, while downregulating mRNA expression of the gene encoding follicle-stimulating hormone beta subunit (fshβ). Furthermore, in long-clawed ground squirrels, Levonorgestrel decreases the mRNA expression of ovarian follicle-stimulating hormone receptor, luteinizing hormone receptor, ovarian estrogen receptor β, and progesterone receptor, as well as the mRNA expression of ERα and PR in the uterus.
In vivo	Levonorgestrel elevates cyclic AMP levels in the veins and inhibits the activation of protein kinase C induced by PMA. It suppresses progesterone secretion in rat luteal cells, which is stimulated by oLH, dibutyryl-cAMP, and pregnenolone. Levonorgestrel also inhibits contractions induced by high potassium (K(+)) solutions or PMA in the presence and absence of extracellular calcium (Ca(2+)), effectuating endothelium-dependent relaxation through hindrance of calcium ion ingress and protein kinase C activation. Moreover, while the inhibitory effects of Levonorgestrel on estrogen-induced pituitary weight gain and hyperprolactinemia are attenuated by mifepristone, flunarizine does not block its effects.

Solubility Information

Solubility	DMSO: 43.8 mg/mL (140.18 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+90% Saline: 1.5 mg/mL (4.8 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	3.2005 mL	16.0026 mL	32.0051 mL
5 mM	0.6401 mL	3.2005 mL	6.401 mL
10 mM	0.3201 mL	1.6003 mL	3.2005 mL
50 mM	0.064 mL	0.3201 mL	0.6401 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

Tellería CM, et al. J Steroid Biochem Mol Biol. 1994 Aug;50(3-4):161-6.
Herkert O, et al. Br J Pharmacol,2000, 130(8), 1911-1918.
Sala-Mateus C, et al. Enferm Infecc Microbiol Clin. 1991 Feb;9(2):117-8.
Lv XH, et al. Exp Anim,2011, 60(4), 363-371.
Kroupova HK, et al. Aquat Toxicol,2014, 154, 154-162.