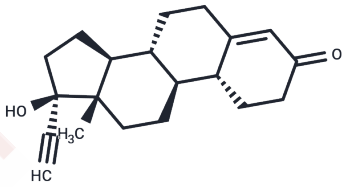
Data Sheet (Cat.No.T1514)

TargetMol

Norethindrone

Chemical Properties



CAS No. : 68-22-4

Formula: C20H26O2

Molecular Weight: 298.42

Appearance: no data available

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year

Biological Description

Description	Norethindrone (Norethisterone) is a synthetic progestational hormone with actions similar to those of PROGESTERONE but functioning as a more potent inhibitor of ovulation. It has weak estrogenic and androgenic properties. The hormone has been used in treating amenorrhea, functional uterine bleeding, endometriosis, and for contraception.
Targets(IC50)	Estrogen/progestogen Receptor,Progesterone Receptor
In vitro	Norethisterone, or, is a 19-nortestosterone derivative, that lacks a C19 methyl group and possesses C17 ethinyl substitution, and primarily displays progestational activity rather than androgenic activity and, to a lesser extent, has oestrogenic and anti-oestrogenic activity. [1] NET shows five- to eight-fold weaker progesterone receptor binding and transactivation activities than the Org 2058 (100%) and two-fold stronger than progesterone. Binding and transactivation activities of NET for androgen receptor (5α-dihydrotestosterone 100%) are 3.2 and 1.1%, respectively, for estrogen receptor none (estradiol 100%) and for glucocorticoid receptor below 1% (dexamethasone 100%). [2] Norethisterone (1 nM) inhibits serum-stimulated or oestradiol (0.1 nM)-induced proliferation of MCF-7 by 41% and 34%, respectively. [3] Norethisterone (50 nM) induces signi?cant effects on rat osteoblast proliferation, differentiation, and mineralization processes, mimicking the effects of estradiol, which is mediated by estrogen receptor. [4]
Cell Research	96 well plates are seeded with approximately 1000 MCF-7 cells per well in assay kit medium. Subsequently, the cells are incubated with medium containing charcoal/dextran treated serum for three days. The Norethisterone is then added alone to the wells and incubated for seven days. To mimic continuous combined HRT the cells are treated with an oestradiol (0.1 nM)/ Norethisterone combination for seven days. After incubation for seven days, cell proliferation is measured by using an ATP-chemosensitivity test. In brief, proliferation is quantified by measuring light emitted during the bioluminescence reaction of luciferine in the presence of ATP and luciferase. (Only for Reference)

Solubility Information

Solubility	DMSO: 20 mg/mL (67.02 mM),Sonication is recommended. Ethanol: 5 mg/mL (16.75 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.351 mL	16.7549 mL	33.5098 mL
5 mM	0.6702 mL	3.351 mL	6.702 mL
10 mM	0.3351 mL	1.6755 mL	3.351 mL
50 mM	0.067 mL	0.3351 mL	0.6702 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.

Reference

Schindler AE, et al. Maturitas, 2003, 46 Suppl 1, S7-S16.
Zeng X, Zhu S, Lu W, et al. Target identification among known drugs by deep learning from heterogeneous networks. Chemical Science. 2020, 11(7): 1775-1797.
Schoonen WG, et al. J Steroid Biochem Mol Biol, 2000, 74(4), 213-222.
Seeger H, et al. J Br Menopause Soc, 2003, 9(1), 36-38.
Enríquez J, et al. J Endocrinol. 2007 Jun;193(3):493-504.
Bain SD, et al. J Bone Miner Res, 1993, 8(2), 219-230.
Zeng X, Zhu S, Lu W, et al. Target identification among known drugs by deep learning from heterogeneous networks[J]. Chemical Science. 2020, 11(7): 1775-1797.