Estradiol cypionate

Cat. No.: HY-B1100

CAS No.: 313-06-4

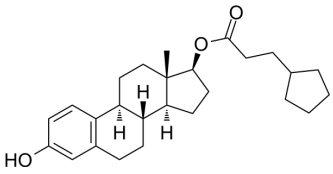
Molecular Formula: $C_{26}H_{36}O_3$

Molecular Weight: 396.56

Target: Estrogen Receptor/ERR; Apoptosis

Pathway: Vitamin D Related/Nuclear Receptor; Apoptosis

Storage: 4°C, protect from light, stored under nitrogen
* In solvent : -80°C, 6 months; -20°C, 1 month (protect from light, stored under nitrogen)



SOLVENT & SOLUBILITY

In Vitro

DMSO : ≥ 30 mg/mL (75.65 mM)
* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	2.5217 mL	12.6084 mL	25.2169 mL
5 mM	0.5043 mL	2.5217 mL	5.0434 mL
10 mM	0.2522 mL	1.2608 mL	2.5217 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.67 mg/mL (6.73 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.67 mg/mL (6.73 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Estradiol cypionate is the 17β-cypionate ester of Estradiol, which inhibits ET-1 synthesis by acting on estrogen receptors[1].

In Vitro

Estradiol cypionate (0-30 μM, 72 h) inhibits proliferation of gastric cancer cells (MGC803, SGC7901, and BGC823)[4].
Estradiol cypionate (10-25 μM, 48 h) induces G1/S phase cell cycle arrest, and induces apoptosis by PI3K /Akt/mTOR pathway in gastric cancer cells (MGC803, SGC7901, and BGC823 cells)[4].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Western Blot Analysis[4]

Cell Line:	MGC803, SGC7901, and BGC823 cells

Concentration:	10-25 μM
Incubation Time:	48 h
Result:	Increased protein level of cleaved caspase-3 and PARP. Decreased protein levels of AKT, p-AKT, p-mTOR, p-S6K, and p-4E-BP1.

In Vivo

Estradiol cypionate (70 μg/kg, i.m., weekly) increases cortical bone density in pubertal ovariectomized (OVX) rabbits[2].
Estradiol cypionate (1 mg, i.m.) increases occurrence of estrus and pregnancy in cows[3].
Estradiol cypionate (50-100 mg/kg, i.p., every other day) inhibits tumor growth in MGC803 nude mice[4].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	MGC803 nude mice tumor model[4].
Dosage:	50-100 mg/kg
Administration:	i.p., every other day
Result:	Inhibited tumor growth. Increased Cleaved caspase-3 expression, decreased Ki67, AKT and p-AKT in tumors.

CUSTOMER VALIDATION

- J Hematol Oncol. 2019 Feb 22;12(1):19.
- Biomaterials. 2018 Aug;173:58-70.
- J Exp Clin Cancer Res. 2020 May 7;39(1):81.
- Cell Death Dis. 2017 May 11;8(5):e2783.
- Phytomedicine. 2023 Sep 2, 155054.

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REFERENCES

[1]. Karimian E, et al. Resveratrol treatment delays growth plate fusion and improves bone growth in female rabbits. PLoS One. 2013 Jun 28;8(6):e67859.

[2]. Sá Filho MF, et al. Impact of hormonal modulation at proestrus on ovarian responses and uterine gene expression of suckled anestrous beef cows. J Anim Sci Biotechnol. 2017 Nov 1;8:79.

[3]. Qiu X, et al. Estradiol cypionate inhibits proliferation and promotes apoptosis of gastric cancer by regulating AKT ubiquitination. Biomed Pharmacother. 2023 Sep;165:115073.

[4]. Feng X, et al. NMI inhibits cancer stem cell traits by downregulating hTERT in breast cancer. Cell Death Dis. 2017 May 11;8(5):e2783.

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