

Product Data Sheet

Product Name: Quinestrol

Cat. No.: GC12644

Chemical Properties

Cas. No. 152-43-2

Chemical Name 3-(cyclopentyloxy)-19-norpregna-1,3,5(10)-trien-20-yn-17 α -ol

SMILES C[C@@]12[C@@]([H])(CC[C@@]2(O)C#C)[C@]([C@]3([H])CC1)([H])CCC4=C3C=CC(OC5CCCC5)=C4

Formula C₂₅H₃₂O₂

M.Wt 364.5

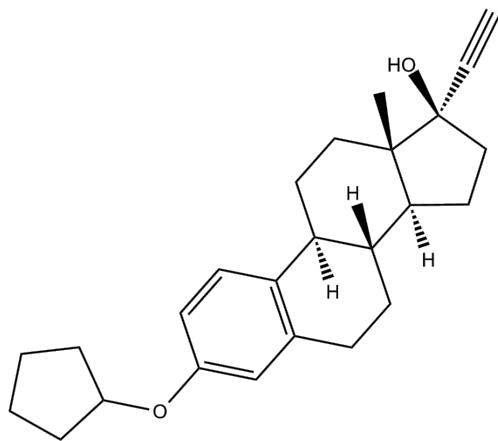
Solubility ≥ 12.15 mg/mL in DMSO

Storage Store at -20°C

General tips For obtaining a higher solubility, please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution: ship with blue ice All other available size: ship with RT, or blue ice upon request.

Structure



Background

Quinestrol is a synthetic estrogen that is effective in hormone replacement therapy after the menopause [1][2].

Estrogen has extraordinarily complex biological effects in diverse tissues such as skeletal, urogenital, digestive, cardiovascular, ocular and nervous systems. Apart from estrogens, selective estrogen

Caution: Product has not been fully validated for medical applications. For research use only.

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receptor modulators may be used for prevention of some of the long-term consequences of estrogen deficiency [2].

Quinestrol is 3-cyclopentyl ether of ethynyl estradiol. After gastrointestinal absorption, Quinestrol is stored in adipose tissue, where it is slowly released and metabolized in the liver to its active form, ethinyl estradiol.

In adult male mice, quinestrol reduced sperm counts and increased the number of abnormal spermatozoa. Quinestrol stimulated oxidative stress to induce apoptosis in spermatogenic cells through the mitochondrial and death receptor pathways [3]. In adult male rat, quinestrol significantly increased the number of germ cells expressing caspase-3, Bax, Fas and FasL, and reduced the number of cells expressing Bcl-2 and PCNA. These results suggested that quinestrol induced abnormal spermatogenesis through the mitochondrial- and Fas-L-mediated pathways [4].

References:

- [1]. Baumgardner SB, Condrea H, Daane TA, et al. Replacement estrogen therapy for menopausal vasomotor flushes. Comparison of quinestrol and conjugated estrogens. *Obstet Gynecol.* 1978 Apr;51(4):445-52.
- [2]. Skouby, S.O. Criteria for the selection of an optimal estrogen replacement. *Gynecological Endocrinology* 15, 60-67 (2001).
- [3]. Li J, Chen F, Li C, et al. Quinestrol induces spermatogenic apoptosis in vivo via increasing pro-apoptotic proteins in adult male mice. *Tissue Cell.* 2014 Oct;46(5):318-25.
- [4]. Li J, Chen F, Chen Y, et al. Mitochondrial- and Fas-L-mediated pathways involved in quinestrol induced spermatogenic apoptosis in adult rat testes. *Toxicol Mech Methods.* 2014 Dec;24(9):609-15.

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