Etiocholanolone

Cat. No.: HY-113320

CAS No.: 53-42-9

Molecular Formula: $C_{19}H_{30}O_2$

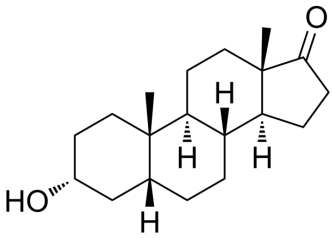
Molecular Weight: 290.44

Target: GABA Receptor; Endogenous Metabolite

Pathway: Membrane Transporter/Ion Channel; Neuronal Signaling; Metabolic Enzyme/Protease

Storage:

Powder	-20°C	3 years
	4°C	2 years
In solvent	-80°C	6 months
	-20°C	1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : 50 mg/mL (172.15 mM; ultrasonic and warming and heat to 60°C)

Preparing Stock Solutions	Mass / Solvent / Concentration	1 mg	5 mg	10 mg
	1 mM	3.4431 mL	17.2153 mL	34.4305 mL
	5 mM	0.6886 mL	3.4431 mL	6.8861 mL
	10 mM	0.3443 mL	1.7215 mL	3.4431 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: ≥ 2.5 mg/mL (8.61 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (8.61 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (8.61 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Etiocholanolone (5β-Androsterone) is the excreted metabolite of testosterone and has anticonvulsant activity[1]. Etiocholanolone is a less potent neurosteroid positive allosteric modulator (PAM) of the $GABA_A$ receptor than its enantiomer form[2].

IC_{50} & Target

Human Endogenous Metabolite

In Vitro

Etiocholanolone (10 μM) coapplication with GABA leads to an increase in the relative frequency of long openings (fraction of

	OT3, site A2 effect), but it is ineffective at increasing the duration of long openings (site B effect) or at decreasing the relative frequency of the activation-related closed time component (site A1 effect)[2]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	Etiocholanolone (intraperitoneal injection; 0-109.1 mg/kg; single dose) exhibits ED50 values of 57.6 and 109.1 mg/kg in the 6-Hz and PTZ tests, respectively. Protective activity in the 6-Hz test of 5β,3α-A persists for 2 h and is shorter than ent-5β,3α-A treatment (3 hours) in mice[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. Ping Li,et al. Natural and Enantiomeric Etiocholanolone Interact With Distinct Sites on the Rat alpha1beta2gamma2L GABAA Receptor. Mol Pharmacol. 2007 Jun;71(6):1582-90.

[2]. Dorota Zolkowska, et al. Anticonvulsant Potencies of the Enantiomers of the Neurosteroids Androsterone and Etiocholanolone Exceed Those of the Natural Forms. Psychopharmacology (Berl). 2014 Sep;231(17):3325-32.

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