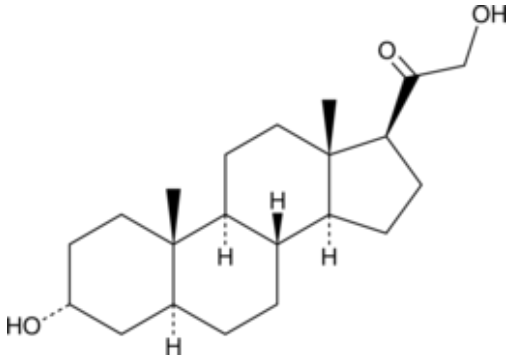
Product Data Sheet

Product Name: THDOC
Cat. No.: GC45961

Chemical Properties

Cas. No.	567-02-2		
SMILES	C[C@@]12[C@](CC[C@@H]2C(CO)=O)([H])[C@]3([H])CC[C@@]4([H])C[C@H](O)CC[C@]4(C)[C@@]3([H])CC1		
Formula	C21H34O3	M.Wt	334.5
Solubility	DMSO: 100 mM,Ethanol: 100 mM	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

THDOC is a neurosteroid and positive allosteric modulator of GABAA receptors.1 It inhibits binding of the convulsant t-butylbicyclophosphorothionate (TBPS) and increases binding of the benzodiazepine flunitrazepam to rat synaptosomal membrane preparations in a concentration-dependent manner.2 THDOC potentiates GABA-induced chloride currents in cultured rat hippocampal and spinal cord neurons. It inhibits seizures induced by pilocarpine or pentylenetetrazol in mice (ED50s = 7.3 and 15

mg/kg, respectively).3 THDOC (20 mg/kg) increases the number of entries into and percentage of time spent in the open arms of the elevated plus maze in mice, indicating anxiolytic activity.4

|1. Usami, N., Yamamoto, T., Shintani, S., et al. Substrate specificity of human 3(20)α-hydroxysteroid dehydrogenase for neurosteroids and its inhibition by benzodiazepines. Biol. Pharm. Bull. 25(4), 441-445 (2002).|2. Majewska, M.D., Harrison, N.L., Schwartz, R.D., et al. Steroid hormone metabolites are barbiturate-like modulators of the GABA receptor. Science 232(4753), 1004-1007 (1986).|3. Kokate, T.G., Cohen, A.L., Karp, E., et al. Neuroactive steroids protect against pilocarpine- and kainic acid-induced limbic seizures and status epilepticus in mice. Neuropharmacology 35(8), 1049-1056 (1996).|4. Rodgers, R.J., and Johnson, N.J. Behaviorally selective effects of neuroactive steroids on plus-maze anxiety in mice. Pharmacol. Biochem. Behav. 59(1), 221-232 (1998).