

## 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)C[C@]4(C)[C@@]3([H])CC1

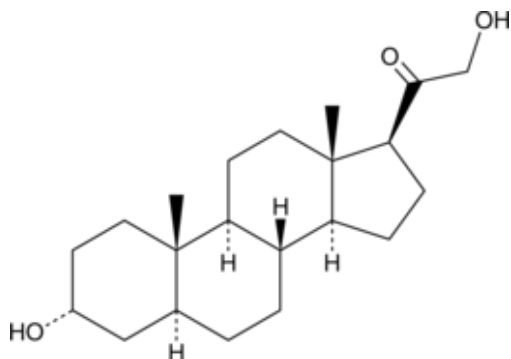
Formula C<sub>21</sub>H<sub>34</sub>O<sub>3</sub> M.Wt 334.5

Solubility DMSO: 100 mM, Ethanol: 100 mM Storage Store at -20°C

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

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

Structure



### Background

THDOC is a neurosteroid and positive allosteric modulator of GABA<sub>A</sub> receptors.<sup>1</sup> 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.<sup>2</sup> THDOC potentiates GABA-induced chloride currents in cultured rat hippocampal and spinal cord neurons. It inhibits seizures induced by pilocarpine or pentylenetetrazol in mice (ED<sub>50</sub>s = 7.3 and 15

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

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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) $\alpha$ -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).

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