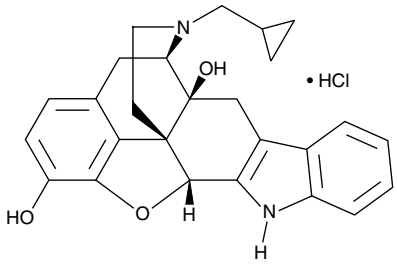
Product Information

Naltrindole (hydrochloride)

Item No. 9000705

CAS Registry No.: 111469-81-9
Formal Name: (4bS,8R,8aS,14bR)-7-(cyclopropylmethyl)-5,6,7,8,14,14b-hexahydro-4,8-methanobenzofuro[2,3-a]pyrido[4,3-b]carbazole-1,8a(9H)-diol, monohydrochloride
MF: $C_{26}H_{26}N_2O_3$ • HCl
FW: 451.0
Purity: ≥98%
Stability: ≥2 years at -20°C
Supplied as: A crystalline solid
UV/Vis.: λ_{max}: 210, 284 nm



Laboratory Procedures

For long term storage, we suggest that naltrindole (hydrochloride) be stored as supplied at -20°C. It should be stable for at least two years.

Naltrindole (hydrochloride) is supplied as a crystalline solid. A stock solution may be made by dissolving the naltrindole (hydrochloride) in the solvent of choice. Naltrindole (hydrochloride) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of naltrindole (hydrochloride) in ethanol is approximately 10 mg/ml and approximately 5 mg/ml in DMSO and DMF.

Naltrindole (hydrochloride) is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, naltrindole (hydrochloride) should first be dissolved in ethanol and then diluted with the aqueous buffer of choice. Naltrindole (hydrochloride) has a solubility of approximately 0.5 mg/ml in a 1:1 solution of ethanol:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Naltrindole is a potent antagonist of the human δ-opioid receptor (K_i = 0.02-0.3 nM), with much lower affinities for κ- and μ-opioid receptors (K_is = 10-66 and 6-64 nM, respectively).[1,2] Naltrindole is commonly used to investigate the role of the δ-opioid receptor in signaling responses to test compounds.[3-5]

References

1. Meng, F., Wei, Q., Hoversten, M.T., *et al.* Switching agonist/antagonist properties of opitate alkaloids at the δ opioid receptor using mutations based on the structure of the orphanin FQ receptor. *J. Biol. Chem.* **275(29)**, 21939-21945 (2000).
2. Raynor, K., Kong, H., Chen, Y., *et al.* Pharmacological characterization of the cloned κ-, δ-, and μ-opioid receptors. *Mol. Pharmacol.* **45(2)**, 330-334 (1994).
3. Steinmiller, C.L. and Young, A.M. Pharmacological selectivity of CTAP in a warm water tail-withdrawal antinociception assay in rats. *Psychopharmacology (Berl)* **195(4)**, 497-507 (2008).
4. Shannon, H.E. and Lutz, E.A. Comparison of the peripheral and central effects of the opioid agonists loperamide and morphine in the formalin test in rats. *Neuropharmacology* **42(2)**, 253-261 (2002).
5. Mendes, G.L., Santos, A.R.S., Malheiros, A., *et al.* Assessment of mechanisms involved in antinociception caused by sesquiterpene polygodial. *J. Pharmacol. Exp. Ther.* **292(1)**, 164-172 (2000).

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Mailing address
1180 E. Ellsworth Road
Ann Arbor, MI
48108 USA

Phone
(800) 364-9897
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Fax
(734) 971-3640

E-Mail
custserv@caymanchem.com

Web
www.caymanchem.com