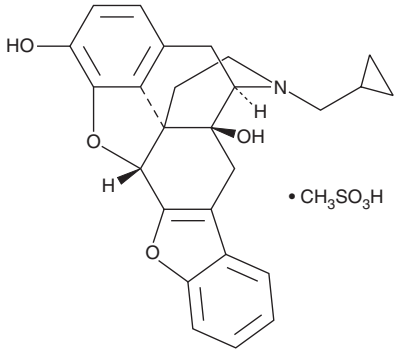
PRODUCT INFORMATION

Naltriben (mesylate)

Item No. 38979



CAS Registry No.: 122517-78-6
Formal Name: (4bS,8R,8aS,14bR)-7-(cyclopropylmethyl)-5,6,7,8,9,14b-hexahydro-4,8-methano-8aH-bisbenzofuro[3,2-e:2′,3′-g]isoquinoline-1,8a-diol, methanesulfonate
Synonyms: NIH 10924, NTB
MF: $C_{26}H_{25}NO_4 \bullet CH_3SO_3H$
FW: 511.6
Purity: ≥98%
Supplied as: A solid
Storage: -20°C
Stability: ≥4 years

Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Naltriben (mesylate) is supplied as a solid. A stock solution may be made by dissolving the naltriben (mesylate) in the solvent of choice, which should be purged with an inert gas. Naltriben (mesylate) is soluble in the organic solvent DMSO.

Description

Naltriben is an inverse agonist of δ_2-opioid receptors (K_i = 0.013 nM in CHO-DG44 cells expressing the mouse receptor).[1,2] It is selective for δ_2-opioid receptors over κ- and μ-opioid receptors (K_is = 13 and 12 nM in PC12 and COS-7 cells expressing the mouse and rat receptors, respectively). Naltriben (1 and 10 µM) induces axonal retraction in primary mouse hippocampal neurons under both normoxic and hypoxic conditions.[3] It is also an activator of transient receptor potential melastatin 7 (TRPM7) and induces calcium influx in HEK293 cells expressing mouse TRPM7 (EC_{50} = 20.7 µM).[4] It reduces self-administration of alcohol or alcohol mixed with saccharin or quinine in alcohol-preferring rats when administered at a dose of 6 mg/kg.[2]

References

1. Raynor, K., Kong, H., Chen, Y., *et al.* Pharmacological characterization of the cloned κ-, δ-, and μ-opioid receptors. *Mol. Pharm.* **45(2)**, 330-334 (1994).
2. Krishnan-Sarin, S., Portoghese, P.S., Li, T.K., *et al.* The delta$_2$-opioid receptor antagonist naltriben selectively attenuates alcohol intake in rats bred for alcohol preference. *Pharmacol. Biochem. Behav.* **52(1)**, 153-159 (1995).
3. Turlova, E., Ji, D., Deurloo, M., *et al.* Hypoxia-induced neurite outgrowth involves regulation through TRPM7. *Mol. Neurobiol.* **60(2)**, 836-850 (2023).
4. Hofmann, T., Schäfer, S., Linseisen, M., *et al.* Activation of TRPM7 channels by small molecules under physiological conditions. *Pflugers Arch.* **466(12)**, 2177-2189 (2014).

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