

# PRODUCT INFORMATION

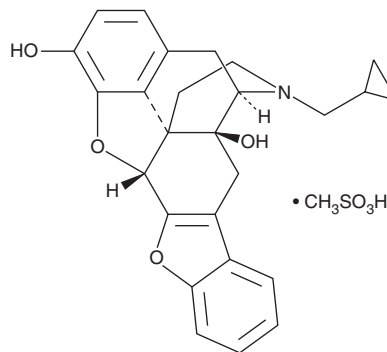


## Naltriben (mesylate)

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<sub>26</sub>H<sub>25</sub>NO<sub>4</sub> • CH<sub>3</sub>SO<sub>3</sub>H  
**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  $\delta_2$ -opioid receptors ( $K_i = 0.013$  nM in CHO-DG44 cells expressing the mouse receptor).<sup>1,2</sup> It is selective for  $\delta_2$ -opioid receptors over  $\kappa$ - and  $\mu$ -opioid receptors ( $K_{1/2} = 13$  and  $12$  nM in PC12 and COS-7 cells expressing the mouse and rat receptors, respectively). Naltriben (1 and 10  $\mu$ M) induces axonal retraction in primary mouse hippocampal neurons under both normoxic and hypoxic conditions.<sup>3</sup> It is also an activator of transient receptor potential melastatin 7 (TRPM7) and induces calcium influx in HEK293 cells expressing mouse TRPM7 ( $EC_{50} = 20.7$   $\mu$ M).<sup>4</sup> 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.<sup>2</sup>

### References

1. Raynor, K., Kong, H., Chen, Y., *et al.* Pharmacological characterization of the cloned  $\kappa$ -,  $\delta$ -, and  $\mu$ -opioid receptors. *Mol. Pharm.* **45**(2), 330-334 (1994).
2. Krishnan-Sarin, S., Portoghese, P.S., Li, T.K., *et al.* The delta<sub>2</sub>-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).

#### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

#### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

#### WARRANTY AND LIMITATION OF REMEDY

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