

Product data sheet



MedKoo Cat#: 527771 Name: Naltriben mesylate CAS: 122517-78-6 (mesylate) Chemical Formula: C ₂₇ H ₂₉ NO ₇ S Exact Mass: 415.1784 Molecular Weight: 511.589		
Product supplied as:	Powder	
Purity (by HPLC):	≥ 98%	
Shipping conditions	Ambient temperature	
Storage conditions:	Powder: -20°C 3 years; 4°C 2 years.	
	In solvent: -80°C 3 months; -20°C 2 weeks.	

1. Product description:

Naltriben is a highly selective $\delta 2$ opioid receptor antagonist. Naltriben (NTB) has been used to differentiate the subtypes of delta opioid receptors, delta1 and delta2. NTB displaced the specific binding of [3H]DAMGO with K_i value of 19.79 +/- 1.12 nM in rat cortex membranes. Specific binding of [3H]diprenorphine ([3H]DIP) was inhibited by NTB with K_i value of 82.75 +/- 6.32 nM in the presence of DAMGO and DPDPE. Naltriben enhanced the MAPK/ERK signaling pathway, but not the PI3k/Akt pathway. Therefore, potentiated TRPM7 activity contributes to the devastating migratory and invasive characteristics of GBM.

2. CoA, QC data, SDS, and handling instruction

SDS and handling instruction, CoA with copies of QC data (NMR, HPLC and MS analytical spectra) can be downloaded from the product web page under "QC And Documents" section. Note: copies of analytical spectra may not be available if the product is being supplied by MedKoo partners. Whether the product was made by MedKoo or provided by its partners, the quality is 100% guaranteed.

3. Solubility data

Solvent	Max Conc. mg/mL	Max Conc. mM
TBD	TBD	TBD

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	1.95 mL	9.77 mL	19.55 mL
5 mM	0.39 mL	1.95 mL	3.91 mL
10 mM	0.20 mL	0.98 mL	1.95 mL
50 mM	0.04 mL	0.20 mL	0.39 mL

5. Molarity Calculator, Reconstitution Calculator, Dilution Calculator

Please refer the product web page under section of "Calculator"

6. Recommended literature which reported protocols for in vitro and in vivo study

In vitro study

1. Wong R, Turlova E, Feng ZP, Rutka JT, Sun HS. Activation of TRPM7 by naltriben enhances migration and invasion of glioblastoma cells. *Oncotarget*. 2017 Feb 14;8(7):11239-11248. doi: 10.18632/oncotarget.14496. PMID: 28061441; PMCID: PMC5355261.

In vivo study

1. June HL, McCane SR, Zink RW, Portoghese PS, Li TK, Froehlich JC. The delta 2-opioid receptor antagonist naltriben reduces motivated responding for ethanol. *Psychopharmacology (Berl)*. 1999 Nov;147(1):81-9. doi: 10.1007/s002130051145. PMID: 10591872.

2. Krishnan-Sarin S, Portoghese PS, Li TK, Froehlich JC. The delta 2-opioid receptor antagonist naltriben selectively attenuates alcohol intake in rats bred for alcohol preference. *Pharmacol Biochem Behav*. 1995 Sep;52(1):153-9. doi: 10.1016/0091-3057(95)00080-g. PMID: 7501658.

7. Bioactivity

Biological target:

Product data sheet



Naltriben is a highly selective $\delta 2$ opioid receptor antagonist.

In vitro activity

First, using the whole-cell patch-clamp technique, this study showed that naltriben enhanced the endogenous TRPM7-like current in U87 cells. In addition, with Fura-2 Ca^{2+} imaging, we observed robust Ca^{2+} influx following naltriben application. Naltriben significantly enhanced U87 cell migration and invasion (assessed with scratch wound assays, Matrigel invasion experiments, and MMP-2 protein expression), but not viability and proliferation (evaluated with MTT assays).

Reference: Oncotarget. 2017 Feb 14;8(7):11239-11248. <https://pubmed.ncbi.nlm.nih.gov/28061441/>

In vivo activity

The objective of the present study was to examine the effects of the delta 2 receptor antagonist naltriben (0.60-4.0 mg/kg) on operant responding maintained by the presentation of ethanol (EtOH) or saccharin in alcohol-preferring (P) rats. Naltriben (0.9-4.0 mg/kg) reduced EtOH-maintained responding by 44-76%, while saccharin-maintained responding was reduced only by the highest dose of naltriben (4.0 mg/kg). A

Reference: Psychopharmacology (Berl). 1999 Nov;147(1):81-9. <https://pubmed.ncbi.nlm.nih.gov/10591872/>

Note: The information listed here was extracted from literature. MedKoo has not independently retested and confirmed the accuracy of these methods. Customer should use it just for a reference only.