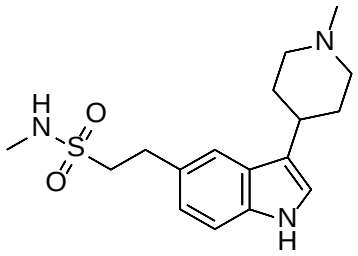
Product data sheet

MedKoo Cat#: 318351 Name: Naratriptan free base CAS: 121679-13-8 (free base) Chemical Formula: $C_{17}H_{25}N_3O_2S$ Exact Mass: 335.1667 Molecular Weight: 335.466	
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:
Naratriptan is a selective 5-HT1 receptor subtype agonist for the treatment of migraine headache. Naratriptan binds with high affinity to human cloned 5-HT1B/1D receptors. Migraines are likely due to local cranial vasodilatation and/or to the release of sensory neuropeptides (including substance P and calcitonin gene-related peptide) through nerve endings in the trigeminal system. The therapeutic activity of AMERGE for the treatment of migraine headache is thought to be due to the agonist effects at the 5-HT1B/1D receptors on intracranial blood vessels (including the arterio-venous anastomoses) and sensory nerves of the trigeminal system, which result in cranial vessel constriction and inhibition of pro-inflammatory neuropeptide release.

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	2.98 mL	14.90	29.81 mL
5 mM	0.60 mL	2.98 mL	5.96 mL
10 mM	0.30 mL	1.49 mL	2.98 mL
50 mM	0.06 mL	0.30 mL	0.60 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. Pauwels PJ, Colpaert FC. Selective antagonism of human 5-HT1D and 5-HT1B receptor-mediated responses in stably transfected C6-glial cells by ketanserin and GR 127,935. Eur J Pharmacol. 1996 Apr 4;300(1-2):141-5. doi: 10.1016/0014-2999(96)00011-8. PMID: 8741180.

In vivo study

1. Park J, Moon H, Akerman S, Holland PR, Lasalandra MP, Andreou AP, Ferrari MD, van den Maagdenberg AM, Goadsby PJ. Differential trigeminovascular nociceptive responses in the thalamus in the familial hemiplegic migraine 1 knock-in mouse: a Fos protein study. Neurobiol Dis. 2014 Apr;64:1-7. doi: 10.1016/j.nbd.2013.12.004. Epub 2013 Dec 17. PMID: 24355314.

2. Minamiyama M, Katsuno M, Adachi H, Doi H, Kondo N, Iida M, Ishigaki S, Fujioka Y, Matsumoto S, Miyazaki Y, Tanaka F, Kurihara H, Sobue G. Naratriptan mitigates CGRP1-associated motor neuron degeneration caused by an expanded polyglutamine repeat tract. Nat Med. 2012 Oct;18(10):1531-8. doi: 10.1038/nm.2932. Epub 2012 Sep 30. PMID: 23023499.

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7. Bioactivity

Biological target:

Naratriptan is a selective 5-HT1 receptor subtype agonist and is a triptan drug that is used for the treatment of migraine headaches.

In vitro activity

The antagonist effects of ketanserin and 2'-methyl-4'-(5-methyl-1,2,4)oxadiazol-3-yl)-biphenyl-[4-carboxyli c acid 4-methoxy-3-(4-methyl-piperazin-1-yl)-phenyl]-amide (GR 127,935) were compared to naratriptan-induced inhibition of cAMP formation in C6-glial cell lines stably expressing human 5-HT1D or 5-HT1B receptor sites. Ketanserin demonstrated potent (pA2: 7.76), competitive antagonism of naratriptan-induced inhibition of forskolin (100 microM)-stimulated cAMP formation in C6-glial/5-HT1D cells.

Reference: Eur J Pharmacol. 1996 Apr 4;300(1-2):141-5. https://pubmed.ncbi.nlm.nih.gov/8741180/

In vivo activity

Naratriptan, a serotonin 1B/1D (5-hydroxytryptamine 1B/1D, or 5-HT1B/1D) receptor agonist, decreased CGRP1 expression via the induction of dual-specificity protein phosphatase 1 (DUSP1), attenuated JNK activity and mitigated pathogenic AR-mediated neuronal damage in cellular and mouse SBMA models.

Reference: Nat Med. 2012 Oct;18(10):1531-8. https://pubmed.ncbi.nlm.nih.gov/23023499/

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.