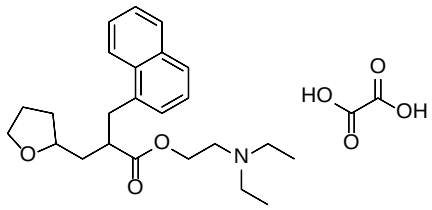
Product data sheet

MedKoo Cat#: 561230 Name: Nafronyl Oxalate CAS: 3200-06-4 Chemical Formula: $C_{26}H_{35}NO_7$ Molecular Weight: 473.566	
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:
Nafronyl Oxalate is a a selective antagonist of 5-HT2 receptors. Nafronyl Oxalate is a vasodilator used in the management of peripheral and cerebral vascular disorders. It is also claimed to enhance cellular oxidative capacity.

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
DMSO	97.0	204.83
Ethanol	94.0	198.49
Water	97.0	204.83

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	2.11 mL	10.56 mL	21.12 mL
5 mM	0.42 mL	2.11 mL	4.22 mL
10 mM	0.21 mL	1.06 mL	2.11 mL
50 mM	0.04 mL	0.21 mL	0.42 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. Calvert RC, Mumtaz FH, Dashwood MR, Khan MA, Morgan RJ, Mikhailidis DP, Thompson CS. Reduction of endothelin-1 binding and inhibition of endothelin-1-mediated detrusor contraction by naftidrofuryl. Clin Sci (Lond). 2002 Aug;103 Suppl 48:459S-463S. doi: 10.1042/CS103S459S. PMID: 12193145.

2. Barradas MA, Jagroop IA, Mikhailidis DP. Naftidrofuryl inhibits the release of 5-hydroxytryptamine and platelet-derived growth factor from human platelets. Clin Chim Acta. 1994 Oct 31;230(2):157-67. doi: 10.1016/0009-8981(94)90268-2. PMID: 7834867.

In vivo study

1. Waly OM, El-Mahdy NA, El-Shitany NAE, Mohammedsaleh ZM, El-Kadem AH. Protective role of naftidrofuryl against methotrexate-induced testicular damage via the amelioration of the p53/miRNA-29a/CDC42 apoptotic pathway, inflammation, and oxidative stress. Environ Toxicol Pharmacol. 2023 Mar;98:104067. doi: 10.1016/j.etap.2023.104067. Epub 2023 Jan 14. PMID: 36649853.

2. García-García L, Gomez F, Delgado M, Fernández de la Rosa R, Pozo MÁ. The vasodilator naftidrofuryl attenuates short-term brain glucose hypometabolism in the lithium-pilocarpine rat model of status epilepticus without providing neuroprotection. Eur J Pharmacol. 2023 Jan 15;939:175453. doi: 10.1016/j.ejphar.2022.175453. Epub 2022 Dec 11. PMID: 36516936.

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7. Bioactivity

Biological target:

Naftidrofuryl oxalate (Nafronyl oxalate salt) is a drug used in the management of peripheral and cerebral vascular disorders as a vasodilator, enhance cellular oxidative capacity, and may also be a 5-HT2 receptor antagonist.

In vitro activity

Naf (Naftidrofuryl oxalate) inhibited ET-1-mediated detrusor contractions significantly (P<0.04), e.g. at 10(-10) M ET-1, contraction was completely abolished by Naf. Autoradiography indicated that Naf competitively inhibited [(125)I]ET-1 binding in a dose-dependent manner (IC(50)=3x10(-7) M). All radioligand binding was reduced indicating binding of Naf to both ET(A) and ET(B) receptors.

Reference: Clin Sci (Lond). 2002 Aug;103 Suppl 48:459S-463S. https://pubmed.ncbi.nlm.nih.gov/12193145/

In vivo activity

This study aimed to assess the possible protective effects of naftidrofuryl (Naf) against methotrexate (MTX)-induced testicular toxicity in rats. Male rats were randomly distributed into four groups: control, Naf, MTX, and MTX+Naf groups. Naf pretreatment significantly decreased malondialdehyde and interleukin-6 contents, microRNA-29a (miRNA-29a) expression level, and nuclear factor kappa B and p53 immunostaining in the testicular tissues compared to the MTX group.

Reference: Environ Toxicol Pharmacol. 2023 Mar;98:104067. https://pubmed.ncbi.nlm.nih.gov/36649853/

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.