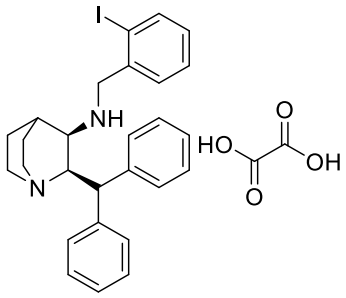
Product data sheet

MedKoo Cat#: 532069 Name: L-703606 Oxalate CAS: 144425-84-3 Chemical Formula: $C_{29}H_{31}IN_2O_4$ Exact Mass: 508.1375 Molecular Weight: 598.4815	
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:
L-703,606 is a potent, selective antagonist to the human NK1 receptor.

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	1.67 mL	8.35 mL	16.71 mL
5 mM	0.33 mL	1.67 mL	3.34 mL
10 mM	0.17 mL	0.84 mL	1.67 mL
50 mM	0.03 mL	0.17 mL	0.33 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. Zhang N, Gao D, Liu Y, Ji S, Sha L. Effects of Neuropeptide Substance P on Proliferation and β-Cell Differentiation of Adult Pancreatic Ductal Cells. Front Neurosci. 2018 Nov 5;12:806. doi: 10.3389/fnins.2018.00806. PMID: 30455626; PMCID: PMC6230717.
2. Masterson SP, Li J, Bickford ME. Frequency-dependent release of substance P mediates heterosynaptic potentiation of glutamatergic synaptic responses in the rat visual thalamus. J Neurophysiol. 2010 Sep;104(3):1758-67. doi: 10.1152/jn.00010.2010. Epub 2010 Jul 21. PMID: 20660425; PMCID: PMC2944677.

In vivo study

1. Wang S, Liu L, Blanco T, Ge H, Xia Y, Pang K, Chen Y, Dana R. Therapeutic efficacy of topical blockade of substance P in experimental allergic red eye. Ocul Surf. 2022 Oct;26:184-190. doi: 10.1016/j.jtos.2022.08.008. Epub 2022 Sep 5. PMID: 36067981.
2. Huang H, Zhang X, Fu X, Zhang X, Lang B, Xiang X, Hao W. Alcohol-induced conditioned place preference negatively correlates with anxiety-like behavior in adolescent mice: inhibition by a neurokinin-1 receptor antagonist. Psychopharmacology (Berl). 2018 Oct;235(10):2847-2857. doi: 10.1007/s00213-018-4976-7. Epub 2018 Jul 27. PMID: 30054674.

7. Bioactivity
Biological target:
L-703,606 is a potent, selective antagonist to the human NK1 receptor.

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In vitro activity

Moreover, NK-1 receptor antagonist L-703,606 blocked the SP-induced stimulation of proliferation. The results of Western blot analysis showed that L-703,606 attenuated the effects of substance P on NK1R, GSK-3β, and β-catenin expression.

Reference: Front Neurosci. 2018 Nov 5;12:806. https://pubmed.ncbi.nlm.nih.gov/30455626/

In vivo activity

Topical treatment of guinea pigs with L-703,606, either before histamine application or at the time of peak ORI (ocular redness index), effectively reduced ORI and suppressed conjunctival blood vessel dilation, along with decreased eosinophil and neutrophil infiltration, and inflammatory cytokine expression in the conjunctiva, as well as reduced SP levels in the tears.

Reference: Ocul Surf. 2022 Oct;26:184-190. https://pubmed.ncbi.nlm.nih.gov/36067981/

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.