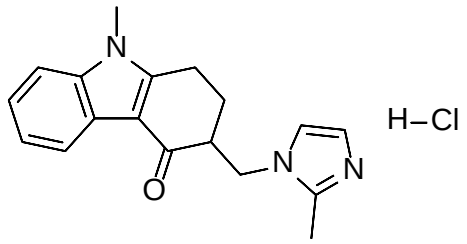
Product data sheet

MedKoo Cat#: 575958 Name: Ondansetron HCl CAS: 99614-01-4 (HCl) Chemical Formula: $C_{18}H_{20}ClN_3O$ Exact Mass: 329.1295 Molecular Weight: 329.828	
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:
Ondansetron is a highly selective serotonin 5-HT3 receptor antagonist, with low affinity for dopamine receptors. It is effective in the treatment of nausea and vomiting caused by cytotoxic chemotherapy drugs, including cisplatin, and has reported anxiolytic and neuroleptic properties. in vitro studies confirm that Ondansetron inhibits AChE and BChE by non-competitive and mixed inhibition, respectively, with IC50 values 33 µM (AChE) and 2.5 µM (BChE). Ondansetron showed activity for preventing of ovarian hyperstimulation syndrome.

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	49.49	150.05
Ethanol	10.0	30.32
Water	20.25	61.38

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	3.03 mL	15.16 mL	30.32 mL
5 mM	0.61 mL	3.03 mL	6.06 mL
10 mM	0.30 mL	1.52 mL	3.03 mL
50 mM	0.06 mL	0.30 mL	0.61 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. Ishizuka J, Hsieh AC, Townsend CM Jr, Thompson JC. Effect of 5-HT3 receptor antagonist (ondansetron) on functioning human pancreatic carcinoid cells. Surg Oncol. 1993 Aug;2(4):221-5. doi: 10.1016/0960-7404(93)90010-v. PMID: 8252212.
2. Koulu M, Lappalainen J, Hietala J, Sjöholm B. Effects of chronic administration of ondansetron (GR38032F), a selective 5-HT3 receptor antagonist, on monoamine metabolism in mesolimbic and nigrostriatal dopaminergic neurons and on striatal D2-receptor binding. Psychopharmacology (Berl). 1990;101(2):168-71. doi: 10.1007/BF02244121. PMID: 2140903.

In vivo study

1. Wildeboer KM, Zheng L, Choo KS, Stevens KE. Ondansetron results in improved auditory gating in DBA/2 mice through a cholinergic mechanism. Brain Res. 2009 Dec 1;1300:41-50. doi: 10.1016/j.brainres.2009.08.075. Epub 2009 Sep 1. PMID: 19728991; PMCID: PMC2784252.

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2. Khedhaier A, Ben Attia M, Gadacha W, Sani M, Bouzouita K, Chouchane L, Mechkouri M, Reinberg A, Boughattas NA. Circadian rhythms in toxic effects of the serotonin antagonist ondansetron in mice. Chronobiol Int. 2003 Nov;20(6):1103-16. doi: 10.1081/cbi-120025532. PMID: 14680146.

7. Bioactivity

Biological target:

Ondansetron hydrochloride (GR 38032 hydrochloride; SN 307 hydrochloride) is a serotonin 5-HT3 receptor antagonist.

In vitro activity

In this study, the effect of 5-HT3 receptor antagonist, ondansetron, on BON was examined. Ondansetron did not affect growth of BON cells and also affected neither stimulation of phosphatidylinositol hydrolysis or inhibition of cyclic AMP production evoked by 5-HT in BON cells. Ondansetron, however, inhibited mobilization of intracellular calcium evoked by 5-HT.

Reference: Surg Oncol. 1993 Aug;2(4):221-5. https://pubmed.ncbi.nlm.nih.gov/8252212/

In vivo activity

The present study assessed the effects of both acute and chronically administered ondansetron on auditory gating in DBA/2 mice. Auditory gating is defined as a decrease in amplitude of response to the second of a paired identical auditory stimulus presented 0.5 s following an initial auditory stimulus. Acute ondansetron administration at the lowest dose (0.1 mg/kg, IP) tested had no effect, while other doses (0.33 and 1 mg/kg, IP) produced improvements in auditory gating. The improvements were produced through both an increase in response to the first auditory stimulus and a decrease in the response to the second auditory stimulus.

Reference: Brain Res. 2009 Dec 1;1300:41-50. https://pubmed.ncbi.nlm.nih.gov/19728991/

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.