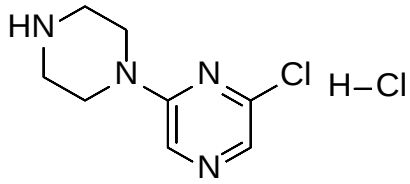
Product data sheet

MedKoo Cat#: 525681 Name: MK-212 HCl CAS: 61655-58-1 (HCl) Chemical Formula: $C_8H_{12}Cl_2N_4$ Exact Mass: 234.0439 Molecular Weight: 235.112	
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:
MK-212 is a 5HT2C-receptor agonist. A dose-dependent the effect of 5HT2C-receptor agonist MK-212 on mouse behavior was demonstrated. Intraperitoneal injection of MK-212 in high doses (0.5 and 1.0 mg/kg) increased blood level of corticosterone in mice and reduced their motor activity. In low doses of 0.1 and 0.2 mg/kg, the agonist reduced anxiety, but had no effect on motor activity. It is hypothesized that low doses of MK-212 exhibited anxiolytic activity in mice.

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
Water	11.76	50.0

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	4.25 mL	21.27 mL	42.53 mL
5 mM	0.85 mL	4.25 mL	8.51 mL
10 mM	0.43 mL	2.13 mL	4.25 mL
50 mM	0.09 mL	0.43 mL	0.85 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. Yarbrough GG, Singh DK, Pettibone DJ. A comparative electrophysiological and biochemical assessment of serotonin (5-HT) and a novel 5-HT agonist (MK-212) on central serotonergic receptors. Neuropharmacology. 1984 Nov;23(11):1271-7. doi: 10.1016/0028-3908(84)90044-3. PMID: 6527736.

In vivo study

1. Guo G, Tang J, Shi M, Yang C, Ou H, Chen W. MK212, a 5-hydroxytryptamine 2C receptor agonist, reverses prepulse inhibition deficits in the medial prefrontal cortex and ventral hippocampus. Prog Neuropsychopharmacol Biol Psychiatry. 2022 Mar 8;113:110441. doi: 10.1016/j.pnpbp.2021.110441. Epub 2021 Sep 21. PMID: 34560172.
2. Wang X, Sun M, Gan L, Chen W. MK212, a 5-hydroxytryptamine 2C receptor agonist, inhibits conditioned avoidance responses independent of blocking endogenous dopamine release in rats. Prog Neuropsychopharmacol Biol Psychiatry. 2019 Mar 8;89:16-22. doi: 10.1016/j.pnpbp.2018.08.022. Epub 2018 Aug 24. PMID: 30145182.

7. Bioactivity
Biological target:

MK-212 (CPP) monohydrochloride is a centrally acting 5-HT1C/5-HT2 agonist.

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In vitro activity

The inhibitory effects of microiontophoretically-applied serotonin (5-HT) and 6-chloro-2[1-piperazinyl]pyrazine (MK-212) were examined on spontaneously firing somatosensory cerebral cortical neurons and dorsal raphe neurons in rats anesthetized with chloral hydrate. On cortical neurons, MK-212 caused only weak and variable inhibition of extracellularly recorded neuronal activity, compared to the effects of 5-HT. However, on raphe cells, MK-212 exerted potent inhibitory effects, equivalent to those observed with 5-HT.

Reference: Neuropharmacology. 1984 Nov;23(11):1271-7. https://pubmed.ncbi.nlm.nih.gov/6527736/

In vivo activity

The results showed that systemic administration of the 5-HT2C receptor agonist MK212 did not affect normal PPI behavior, but reversed the PPI deficits induced by the N-methyl d-aspartate receptor antagonist MK801 in mice. In addition, the 5-HT2C receptor antagonist SB242084 had no effect on PPI behavior despite MK801 treatment. Moreover, local infusion of MK212 into the medial prefrontal cortex and ventral hippocampus, excluding the nucleus accumbens or ventral tegmental area, rescued the PPI deficits induced by MK801.

Reference: Prog Neuropsychopharmacol Biol Psychiatry. 2022 Mar 8;113:110441. https://pubmed.ncbi.nlm.nih.gov/34560172/