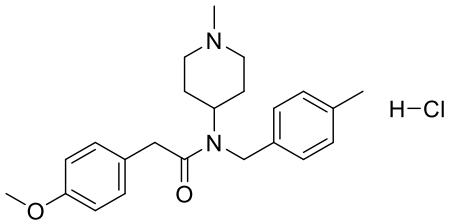
Product data sheet

MedKoo Cat#: 531399 Name: AC-90179 HCl CAS#: 359878-19-6 (HCl) Chemical Formula: $C_{23}H_{31}ClN_2O_2$ Molecular Weight: 402.96	
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:
AC-90179 is a high selective 5-hydroxytryptamine2A receptor inverse agonist. It is an atypical antipsychotic pharmaceutical. It has been shown to alleviate hallucinogen-induced vasocontriction and possible other harmful physical symptoms.

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	2.48 mL	12.41 mL	24.82 mL
5 mM	0.50 mL	2.48 mL	4.96 mL
10 mM	0.25 mL	1.24 mL	2.48 mL
50 mM	0.05 mL	0.25 mL	0.50 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. Vanover KE, Harvey SC, Son T, Bradley SR, Kold H, Makhay M, Veinbergs I, Spalding TA, Weiner DM, Andersson CM, Tolf BR, Brann MR, Hacksell U, Davis RE. Pharmacological characterization of AC-90179 [2-(4-methoxyphenyl)-N-(4-methyl-benzyl)-N-(1-methyl-piperidin-4-yl)-acetamide hydrochloride]: a selective serotonin 2A receptor inverse agonist. J Pharmacol Exp Ther. 2004 Sep;310(3):943-51. doi: 10.1124/jpet.104.066688. Epub 2004 Apr 21. PMID: 15102927.

In vivo study

1. Ruderman MA, Powell SB, Geyer MA. A Kappa Opioid Model of Atypical Altered Consciousness and Psychosis: U50488, DOI, AC90179 Effects on Prepulse Inhibition and Locomotion in Mice. J Young Investig. 2009 Jul 1;19(13):1-7. PMID: 25346645; PMCID: PMC4208663.
2. Vanover KE, Harvey SC, Son T, Bradley SR, Kold H, Makhay M, Veinbergs I, Spalding TA, Weiner DM, Andersson CM, Tolf BR, Brann MR, Hacksell U, Davis RE. Pharmacological characterization of AC-90179 [2-(4-methoxyphenyl)-N-(4-methyl-benzyl)-N-(1-methyl-piperidin-4-yl)-acetamide hydrochloride]: a selective serotonin 2A receptor inverse agonist. J Pharmacol Exp Ther. 2004 Sep;310(3):943-51. doi: 10.1124/jpet.104.066688. Epub 2004 Apr 21. PMID: 15102927.

7. Bioactivity
Biological target: AC-90179 hydrochloride is a selective serotonin (5-HT2A) receptor inverse agonist.

In vitro activity

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Like all atypical antipsychotics, AC-90179 shows high potency as an inverse agonist and competitive antagonist at 5HT2A receptors. In addition, AC-90179 exhibits antagonism at 5HT2C receptors. In contrast, AC-90179 does not have significant potency for D2 and H1 receptors that have been implicated in the dose-limiting side effects of other antipsychotic drugs.

Reference: J Pharmacol Exp Ther. 2004 Sep;310(3):943-51. https://jpet.aspetjournals.org/content/310/3/943.long

In vivo activity

The ability of AC-90179 to block 5-HT2A receptor signaling in vivo was demonstrated by its blockade of the rate-decreasing effects of the 5-HT2A agonist, (+/-)-2,5-dimethoxy-4-iodoamphetamine hydrochloride, under a fixed ratio schedule of reinforcement. Similar to clozapine and haloperidol, AC-90179 attenuated phencyclidine-induced hyperactivity.

Reference: J Pharmacol Exp Ther. 2004 Sep;310(3):943-51. https://jpet.aspetjournals.org/content/310/3/943.long