# PRX-07034 hydrochloride

**Cat. No.:** HY-14559

**CAS No.:** 903580-39-2

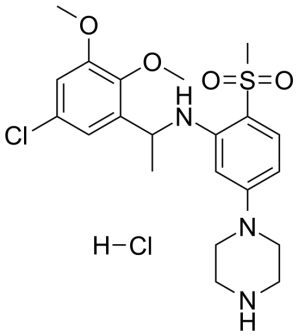
**Molecular Formula:** $C_{21}H_{29}Cl_2N_3O_4S$

**Molecular Weight:** 490.44

**Target:** 5-HT Receptor

**Pathway:** GPCR/G Protein; Neuronal Signaling

**Storage:** -20°C, sealed storage, away from moisture
* In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)




## SOLVENT & SOLUBILITY

**In Vitro**

DMSO : 31.25 mg/mL (63.72 mM; ultrasonic and warming and heat to 60°C)
$H_2O$ : 4.76 mg/mL (9.71 mM; Need ultrasonic)

**Preparing Stock Solutions**

| Solvent / Mass / Concentration | 1 mg | 5 mg | 10 mg |
|---|---|---|---|
| 1 mM | 2.0390 mL | 10.1949 mL | 20.3899 mL |
| 5 mM | 0.4078 mL | 2.0390 mL | 4.0780 mL |
| 10 mM | 0.2039 mL | 1.0195 mL | 2.0390 mL |

Please refer to the solubility information to select the appropriate solvent.

**In Vivo**

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.08 mg/mL (4.24 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.08 mg/mL (4.24 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.08 mg/mL (4.24 mM); Clear solution

## BIOLOGICAL ACTIVITY

**Description**

PRX-07034 hydrochloride is a highly selective and potent 5-HT6 receptor antagonist with a $K_i$= 4-8 nM and an $IC_{50}$ of 19 nM. PRX-07034 can be used for the research of enhancing working memory and cognitive flexibility[1].

**$IC_{50}$ & Target**

| | | | |
|---|---|---|---|
| 5-$HT_6$ Receptor<br>4-8 nM (Ki) | 5-$HT_6$ Receptor<br>19 nM ($IC_{50}$) | 5-$HT_{1B}$ Receptor<br>260 nM (Ki) | 5-$HT_{1A}$ Receptor<br>420 nM (Ki) |
| 5-$HT_{1D}$ Receptor<br>2.8 μM (Ki) | 5-$HT_{2A}$ Receptor<br>2.5 μM ($IC_{50}$) | 5-$HT_{2B}$ Receptor<br>2.5 μM ($IC_{50}$) | 5-$HT_{2C}$ Receptor<br>3.7 μM ($IC_{50}$) |

| | | | |
|---|---|---|---|
| | Dopamine D3 Receptor<br>71 nM (Ki) | Opioid μ Receptor<br>0.45 μM (Ki) | Histamine H2 Receptor<br>0.64 μM (Ki) |

**In Vitro**

PRX-07034 is both a potent and highly selective 5-HT6 receptor antagonist (≥100-fold selectivity for the 5-HT6 receptor compared to 68 other GPCRs, ion channels, and transporters. PRX-07034 inhibits 5-HT1A, 5-HT1B, 5-HT1D, Dopamine D3, Histamine H2, and Opioid μ receptor with $K_i$s of 420 nM, 260 nM, 2.8 μM, 71 nM, 0.64 μM, and 0.45 μM, respectively. PRX-07034 inhibits 5-HT2A, 5-HT2B, and 5-HT2C receptors with $IC_{50}$s of 2.5 μM, 2.5 μM, and 3.7 μM, respectively[1].
In functional assays, PRX-07034 demonstrates low antagonist activity for the dopamine D3 receptor ($IC_{50}$=4.8 μM) and very low agonistic activity for the opioid μ-receptor ($EC_{50}$=19 μM) [1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

**In Vivo**

PRX-07034 (0.1, 1, or 3 mg/kg; i.p.; 30 min prior to delayed spontaneous alternation testing) selectively enhances a switch to a place discrimination[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

| | |
|---|---|
| Animal Model: | Male Long-Evans rats weighing approximately 350 g[1] |
| Dosage: | 0.1, 1, or 3 mg/kg |
| Administration: | Injected intraperitoneal |
| Result: | 1 and 3 mg/kg (but not 0.1 mg/kg) significantly enhanced delayed spontaneous alternation. The drug at 1 and 3 mg/kg also enhanced switching between a place and response strategy, but did not affect initial learning of either a place or response discrimination. |

## REFERENCES

[1]. Eric G Mohler, et al. The effects of PRX-07034, a novel 5-HT6 antagonist, on cognitive flexibility and working memory in rats. Psychopharmacology (Berl). 2012 Apr;220(4):687-96.



Tel: 609-228-6898 Fax: 609-228-5909 E-mail: tech@MedChemExpress.com
Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA