

# Lurasidone (Hydrochloride)

## Catalog No: tcsc0866

Available Sizes

Size: 10mg			
Size: 50mg			
<b>Size:</b> 100mg			
<b>Size:</b> 200mg			
<b>Size:</b> 500mg			
<b>Specifications</b>			

CAS No:

367514-88-3

#### Formula:

 $C_{28}H_{37}CIN_4O_2S$ 

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

#### **Target:**

Dopamine Receptor; Dopamine Receptor; 5-HT Receptor; 5-HT Receptor

#### Purity / Grade:

>98%

#### Solubility:

DMSO : 1 mg/mL (1.89 mM; Need ultrasonic and warming); H2O :

#### Alternative Names:

SM-13496 (Hydrochloride)

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**Observed Molecular Weight:** 

529.14

### **Product Description**

Lurasidone is an antagonist of both **dopamine**  $D_2$  and  $5-HT_7$  with  $IC_{50}$ s of 1.68 and 0.495 nM, respectively. Lurasidone is also a partial agonist of  $5-HT_{1A}$  receptor with an  $IC_{50}$  of 6.75 nM.

IC50 & Target: IC50: 1.68 nM (dopamine  $D_2$ ), 0.495 nM (5-HT<sub>7</sub>), 6.75 nM (5-HT<sub>1</sub>)<sup>[1]</sup>

In Vitro: Lurasidone is an antagonist of dopamine  $D_2$  and 5-HT<sub>7</sub> with  $IC_{50}$ s of 1.68±0.09 and 0.495±0.090 nM, respectively. Lurasidone is also a partial agonist of 5-HT<sub>1A</sub> receptor with an  $IC_{50}$  of 6.75±0.97 nM. In vitro receptor binding experiments reveal that Lurasidone demonstrates affinity for dopamine  $D_2$  and 5-HT<sub>2A</sub> receptors higher than other tested antipsychotics. Lurasidone does not increase [<sup>35</sup>S]GTP<sub>Y</sub>S binding to the membrane preparations for dopamine  $D_2$  receptors by itself, but it antagonizes dopamine-stimulated [<sup>35</sup>S]GTP<sub>Y</sub>S binding in a concentration-dependent manner with a K<sub>R</sub> value of 2.8±1.1 nM<sup>[1]</sup>.

*In Vivo:* Lurasidone dose-dependently increases the ratio of DOPAC/dopamine in both regions, but it shows a preferential effect on the frontal cortex compare with the striatum, especially at higher doses. Lurasidone ( $ED_{50}$  values 2.3 to 5.0 mg/kg) shows a comparable potency with olanzapine ( $ED_{50}$  values 1.1 to 5.1 mg/kg), higher potency than clozapine ( $ED_{50}$  9.5 to 290 mg/kg), and slightly lower potency than haloperidol ( $ED_{50}$  values 0.44 to 1.7 mg/kg). Lurasidone (1 to 10 mg/kg) dose-dependently inhibits conditioned avoidance response (CAR) in rats, and the  $ED_{50}$  values are 6.3 mg/kg. Lurasidone dose-dependently inhibits TRY-induced forepaw clonic seizure and p-CAMP-induced hyperthermia with  $ED_{50}$  values of 5.6 and 3.0 mg/kg, respectively. Lurasidone (0.3 to 30 mg/kg) dose-dependently and significantly increases the number of shocks received by rats in the conflict test with MED of 10 mg/kg (p[1].



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