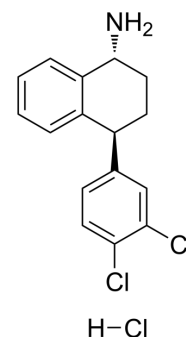


## Dasotraline hydrochloride

<b>Cat. No.:</b>	HY-12850A
<b>CAS No.:</b>	675126-08-6
<b>Molecular Formula:</b>	C <sub>16</sub> H <sub>16</sub> Cl <sub>3</sub> N
<b>Molecular Weight:</b>	328.66
<b>Target:</b>	Serotonin Transporter; Dopamine Transporter
<b>Pathway:</b>	Neuronal Signaling
<b>Storage:</b>	4°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 mg/mL (94.32 mM)  
 H<sub>2</sub>O : 1.61 mg/mL (4.90 mM; ultrasonic and warming and heat to 60°C)  
 \* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions	Solvent Concentration	Mass	1 mg	5 mg	10 mg
		1 mM	3.0427 mL	15.2133 mL	30.4266 mL
	5 mM	0.6085 mL	3.0427 mL	6.0853 mL	
	10 mM	0.3043 mL	1.5213 mL	3.0427 mL	

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

### BIOLOGICAL ACTIVITY

#### Description

Dasotraline hydrochloride (SEP-225289 hydrochloride) is a triple reuptake inhibitor that blocks dopamine, norepinephrine, and serotonin transporters with IC<sub>50</sub> values of 4, 6, and 11 nM, respectively.

#### IC<sub>50</sub> & Target

IC<sub>50</sub>: 4 nM (dopamine), 6 nM (norepinephrine), 11 nM (serotonin)<sup>[1]</sup>

#### In Vivo

Acute administration of dasotraline dose-dependently decreases the spontaneous firing rate of LC NE, VTA DA and DR 5-HT neurons through the activation of α<sub>2</sub>, D<sub>2</sub> and 5-HT<sub>1A</sub> autoreceptors, respectively. Dasotraline predominantly inhibits the firing rate of LC NE neurons while producing only a partial decrease in VTA DA and DR 5-HT neuronal discharge. SEP-225289 is equipotent at inhibiting 5-HT and NE transporters since it prolongs to the same extent the time required for a 50% recovery of the firing activity of dorsal hippocampus CA3 pyramidal neurons from the inhibition induced by microiontophoretic application of 5-HT and NE<sup>[1]</sup>. Average dopamine and serotonin transporter occupancies increase with increasing doses of SEP-225289. Mean dopamine and serotonin transporter occupancies are 33%±11% and 2%±13%, respectively, for 8 mg; 44%±4% and 9%±10%, respectively, for 12 mg; and 49%±7% and 14%±15%, respectively, for 16 mg<sup>[2]</sup>. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

---

## REFERENCES

[1]. Guiard BP, et al. Characterization of the electrophysiological properties of triple reuptake inhibitors on monoaminergic neurons. Int J Neuropsychopharmacol. 2011 Mar;14(2):211-23.

[2]. DeLorenzo C, et al. SEP-225289 serotonin and dopamine transporter occupancy: a PET study.

---

**Caution: Product has not been fully validated for medical applications. For research use only.**

Tel: 609-228-6898

Fax: 609-228-5909

E-mail: [tech@MedChemExpress.com](mailto:tech@MedChemExpress.com)

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA