

Vortioxetine

Catalog No: tcsc1471



Available Sizes

Size: 5mg

Size: 10mg

Size: 50mg



Specifications

CAS No:

508233-74-7

Formula:

$C_{18}H_{22}N_2S$

Pathway:

Neuronal Signaling; Neuronal Signaling; GPCR/G Protein

Target:

Serotonin Transporter; 5-HT Receptor; 5-HT Receptor

Purity / Grade:

>98%

Solubility:

DMSO : 50 mg/mL (167.53 mM; Need ultrasonic); H2O :

Alternative Names:

Lu AA 21004

Observed Molecular Weight:

298.45

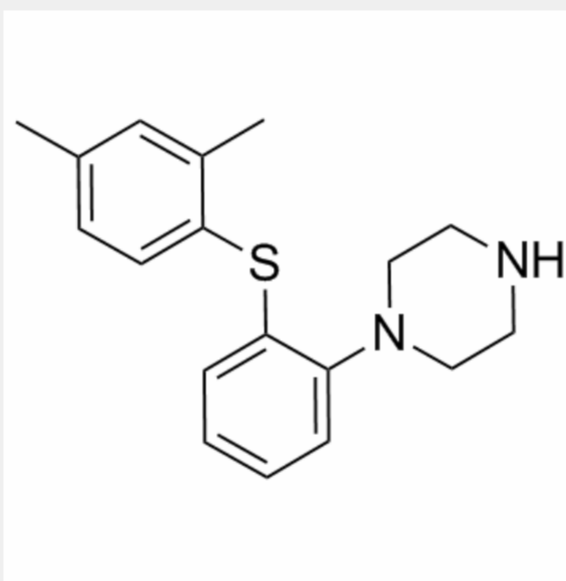
Product Description

Vortioxetine is an inhibitor of **5-HT_{1A}**, **5-HT_{1B}**, **5-HT_{3A}**, **5-HT₇** receptor and **SERT**, with K_i values of 15 nM, 33 nM, 3.7 nM, 19 nM and 1.6 nM, respectively.

IC₅₀ & Target: K_i : 15 nM (5-HT_{1A}); 33 nM (5-HT_{1B}); 3.7 nM (5-HT_{3A}); 19 nM (5-HT₇); 1.6 nM (SERT)_[1].

In Vitro: Vortioxetine (Compound 5m) is a multimodal serotonergic agent, inhibits 5-HT_{1A}, 5-HT_{1B}, 5-HT_{3A}, 5-HT₇ receptor and SERT with K_i values of 15 nM, 33 nM, 3.7 nM, 19 nM and 1.6 nM, respectively. Vortioxetine displays antagonistic properties at 5-HT_{3A} and 5-HT₇ receptors, partial agonist properties at 5-HT_{1B} receptors, agonistic properties at 5-HT_{1A} receptors, and potent inhibition of SERT_[1]. Vortioxetine is a partial 5-HT_{1B} receptor agonist with EC₅₀ of 460 nM and intrinsic activity of 22% using a whole-cell cAMP-based assay. Vortioxetine binds to the 5-HT₇ receptor with a K_i value of 200 nM and is a functional antagonist at the 5-HT₇ receptor with an IC₅₀ of 2 μ M in an in vitro whole-cell cAMP assay_[5].

In Vivo: Vortioxetine (Lu AA21004) occupies the 5-HT_{1B} receptor and rSERT (ED₅₀ = 3.2 and 0.4 mg/kg, respectively) after subcutaneous administration and is a 5-HT₃ receptor antagonist_[6]. Vortioxetine significantly increases cell proliferation and cell survival and stimulates maturation of immature granule cells in the subgranular zone of the dentate gyrus of the hippocampus after 21 days of treatment_[3]. Vortioxetine does not cause cognitive or psychomotor impairment_[4].



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