

Product Datasheet

Opiranserin hydrochloride

Catalog No. **BP-02246A** · CAS **1440796-75-7** · Form **salt · hydrochloride** · Physical state **other** · Color **White to off-white** · Version **1.0** · Revision **2026-09-03**

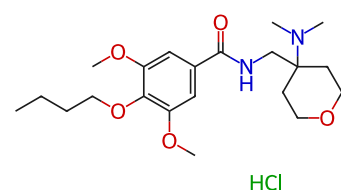
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Target GlyT; 5-HT Receptor; P2X Receptor	Research area Neurological Disease
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Molecular formula **C₂₁H₃₅ClN₂O₅**

Molecular weight **430.9660**

STRUCTURE



DESCRIPTION

Opiranserin (VVZ-149) hydrochloride, a non-opioid and non-NSAID analgesic candidate, is a dual antagonist of glycine transporter type 2 (GlyT2) and serotonin receptor 2A (5HT2A), with IC₅₀s of 0.86 and 1.3 μM, respectively. Opiranserin hydrochloride shows antagonistic activity on rP2X3 (IC₅₀=0.87 μM).

BIOLOGICAL ACTIVITY

Opiranserin hydrochloride (25 mg/kg, s.c.) effectively reduced mechanical allodynia and pain-related behaviors with efficacy comparable to 3 mg/kg Morphine. Opiranserin hydrochloride (80 mg/kg, p.o.) reduced mechanical allodynia in a rat spinal nerve ligation model.

SOLUBILITY

Soluble in DMSO

In vitro DMSO : 50 mg/mL

REFERENCES

- [1]. Oh J, et al. Safety, Tolerability, and Pharmacokinetic Characteristics of a Novel Nonopioid Analgesic, VVZ-149 Injections in Healthy Volunteers: A First-in-Class, First-in-Human Study. J Clin Pharmacol. 2018 Jan;58(1):64-73.
- [2]. Nedeljkovic SS, et al. Randomised, double-blind, parallel group, placebo-controlled study to evaluate the analgesic efficacy and safety of VVZ-149 injections for postoperative pain following laparoscopic colorectal surgery. BMJ Open. 2017 Feb 17;7(2):e011035.
- [3]. Pang MH, et al. A series of case studies: practical methodology for identifying antinociceptive multi-target drugs. Drug Discov Today. 2012 May;17(9-10):425-34.

[4]. Christopher L Cioffi. Inhibition of Glycine Re-Uptake: A Potential Approach for Treating Pain by Augmenting Glycine-Mediated Spinal Neurotransmission and Blunting Central Nociceptive Signaling. *Biomolecules*. 2021 Jun 10;11(6):864.

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