

Product Data Sheet

Product Name: BAN ORL 24

Cat. No.: GC15926

Chemical Properties

Cas. No. 475150-69-7

Chemical Name (2R)-1-benzyl-N-(3-spiro[1H-2-benzofuran-3,4'-piperidine]-1'-ylpropyl)pyrrolidine-2-carboxamide; dihydrochloride

SMILES C1CC(N(C1)CC2=CC=CC=C2)C(=O)NCCCN3CCC4(CC3)C5=CC=CC=C5CO4.Cl.Cl

Formula $C_{27}H_{37}Cl_2N_3O_2$

M.Wt 506.51

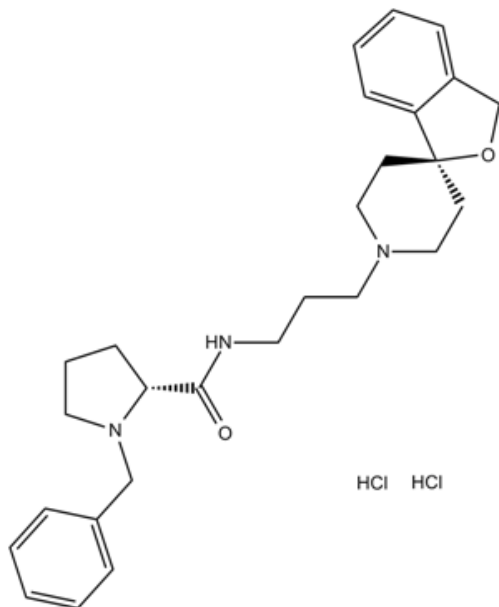
Solubility Soluble in DMSO

Storage Store at -20°C

General tips For obtaining a higher solubility, please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution: ship with blue ice. All other available size: ship with RT, or blue ice upon request.

Structure



Background

BAN ORL24 is a selective inhibitor of NOP with pK(i) value of 9.62 [1].

NOP (nociceptin/orphanin FQ (N/OFQ) peptide receptor) is a G protein coupled receptor and plays

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an important role in regulating many brain activities[2].

BAN ORL24 is a potent NOP inhibitor and has the highest affinity compared with other NOP inhibitors. When tested with CHO (hNOP) cells, administration of BAN ORL24 showed high affinity to cell membrane and higher selective compared with classical opioid receptors [1]. In SG neuron heterologously expressing NOP receptors with an enhanced basal facilitation ratio, BAN ORL24 treatment for 50 seconds enhanced the Ca²⁺ current amplitude for both prepulse and postpulse [3]. In the mouse tail withdrawal assay, administration of BAN ORL24 (10 mg/kg) combined with N/OFQ (1 nmol) antagonized the pronociceptive and antinociceptive effects of given supraspinally and spinally, respectively. Under the same experimental conditions BAN ORL24 did not affect the antinociceptive action of 3 nmol endomorphin-1 injected intrathecally [1].

References:

- [1].Fischetti, C., et al., *Pharmacological characterization of the nociceptin/orphanin FQ receptor non peptide antagonist Compound 24*. *Eur J Pharmacol*, 2009. 614(1-3): p. 50-7.
- [2].Donica, C.L., et al., *Cellular mechanisms of nociceptin/orphanin FQ (N/OFQ) peptide (NOP) receptor regulation and heterologous regulation by N/OFQ*. *Mol Pharmacol*, 2013. 83(5): p. 907-18.
- [3].Mahmoud, S., et al., *Modulation of silent and constitutively active nociceptin/orphanin FQ receptors by potent receptor antagonists and Na⁺ ions in rat sympathetic neurons*. *Mol Pharmacol*, 2010. 77(5): p. 804-17.

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