

Product Data Sheet

Product Name: Risperidone hydrochloride

Cat. No.: GC37539

Chemical Properties

Cas. No. 666179-74-4

SMILES O=C1C(CCN2CCC(C3=NOC4=C3C=CC(F)=C4)CC2)=C(C)N=C5N1CCCC5.Cl

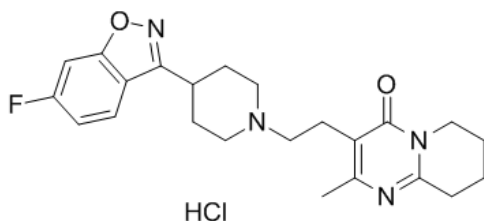
Formula $C_{23}H_{28}ClFN_4O_2$ M.Wt 446.95

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



Protocol

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

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Animal experiment: Rats[2]A 1.0 mg/kg dose and a higher dose (3.0 mg/kg) of Risperidone are chosen for study. Beginning on postnatal day 14, subcutaneous injections of Risperidone are performed daily until postnatal day 42. Within each study, three groups of roughly equal numbers of rats receive injections of 1.0 mg/kg of Risperidone, 3.0 mg/kg of Risperidone, or the vehicle used for the Risperidone solution as a control. Within each litter, there are 1-2 pups of the same sex that receive the same treatment. Injections of Risperidone are performed in a room just outside of the housing room. Prior to weaning, the pups are removed from the home cage and placed in a separate cage during injections[2].

References:

- [1]. Chen ML, et al. Risperidone modulates the cytokine and chemokine release of dendritic cells and induces TNF- α -directed cellapoptosis in neutrophils. *Int Immunopharmacol.* 2012 Jan;12(1):197-204.
[2]. Bardgett ME, et al. Adult rats treated with risperidone during development are hyperactive. *Exp Clin Psychopharmacol.* 2013 Jun;21(3):259-67.

Background

Risperidone hydrochloride is a serotonin 5-HT₂ receptor blocker and a potent dopamine D₂ receptor antagonist, with K_i of 0.16, 1.4 nM for 5-HT₂ and D₂ receptor, respectively. 5-HT₂ Receptor|0.16 nM (K_i)|D₂ receptor|1.4 nM (K_i)

Risperidone is serotonin 5-HT₂ receptor blocker as shown by displacement of radioligand binding (K_i =0.16 nM), activity on isolated tissues (EC_{50} =0.5 nM). Risperidone is also a potent dopamine D₂ receptor antagonist as indicated by displacement of radioligand binding (K_i =1.4 nM), activity in isolated striatal slices (IC_{50} =0.89 nM)[1]. Risperidone increases the production of IL-10 and MDC as well as the proinflammatory cytokines, such as IL-6, IL-8, and TNF- α , but decreases the production of IP-10 and IL-12[2].

Long-Evans rats receive daily subcutaneous injections of vehicle or 1 of 2 doses of risperidone (1.0 and 3.0 mg/kg per day) from postnatal Days 14 to 42. Weight gain during development is slightly yet significantly reduced in risperidone-treated rats. In the first 2 experiments, early-life Risperidone administration is associated with increased locomotor activity at 1 week post administration through

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approximately 9 months of age, independent of changes in weight gain[2].

[1]. Chen ML, et al. Risperidone modulates the cytokine and chemokine release of dendritic cells and induces TNF- α -directed cellapoptosis in neutrophils. *Int Immunopharmacol.* 2012 Jan;12(1):197-204.

[2]. Bardgett ME, et al. Adult rats treated with risperidone during development are hyperactive. *Exp Clin Psychopharmacol.* 2013 Jun;21(3):259-67.

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