Product Data Sheet

Chemical Properties

Product Name: Olanzapine
Cas No.: 132539-06-1
M.Wt: 312.43
Formula: C17H20N4S

Chemical Name: 2-methyl-4-(4-methylpiperazin-1-yl)-5H-thieno[3,2-c][1,5]benzodiazepine
Canonical SMILES: CC1=CC2=C(NC3=CC=CC=C3N=C2S1)N4CCN(CC4)C

Solubility: >15.6mg/mL 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.
Shopping Condition: Evaluation sample solution: ship with blue ice
All other available size: ship with RT, or blue ice upon request

Biological Activity

Targets: Neuroscience
Pathways: 5-HT Receptor

Description:

Olanzapine is a high affinity for 5-HT2 serotonin and D2 dopamine receptor antagonist. The 5-HT2 serotonin and D2 dopamine receptors are subfamily of G protein-coupled receptors (GPCRs) [1].

In vitro: Binding studies showed that olanzapine interacted with key receptors of interest in schizophrenia, exhibiting a nanomolar affinity for dopaminergic, serotonergic, alpha 1-adrenergic, and muscarinic receptors [1].
In vivo: Olanzapine was a potent antagonist at D_{2} receptors and 5-HT receptors, but showed weaker activity at alpha-adrenergic and muscarinic receptors [1]. Administration of Olanzapine at 0.5, 3 and 10 mg/kg (s.c.) increased the extracellular dopamine (DA) and norepinephrine (NE) levels in all three brain areas in a dose-dependent manner. The increases reached peaks 60-90 min after olanzapine administration and lasted for at least 2 h. The highest DA increases in the Acb and Cpu were induced by olanzapine at 3 mg/kg but at 10 mg/kg in the Pfc while the highest NE increase in the Pfc (414% ± 40) induced by 10 mg/kg olanzapine [2]. In macaque monkeys, olanzapine treatment resulted in an 8-11% reduction in mean fresh brain weights as well as left cerebrum fresh weights and volumes [3].

Reference:

Caution

FOR RESEARCH PURPOSES ONLY.

NOT FOR HUMAN, VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

Specific storage and handling information for each product is indicated on the product datasheet. Most ApexBio products are stable under the recommended conditions. Products are sometimes shipped at a temperature that differs from the recommended storage temperature. Short-term storage of many products are stable in the short-term at temperatures that differ from that required for long-term storage. We ensure that the product is shipped under conditions that will maintain the quality of the reagents. Upon receipt of the product, follow the storage recommendations on the product data sheet.

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