

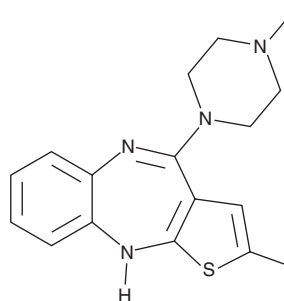
# PRODUCT INFORMATION



## Olanzapine

Item No. 11937

**CAS Registry No.:** 132539-06-1  
**Formal Name:** 2-methyl-4-(4-methyl-1-piperazinyl)-10H-thieno[2,3-b][1,5]benzodiazepine  
**Synonym:** LY170053  
**MF:** C<sub>17</sub>H<sub>20</sub>N<sub>4</sub>S  
**FW:** 312.4  
**Purity:** ≥98%  
**UV/Vis.:** λ<sub>max</sub>: 226, 272 nm  
**Supplied as:** A crystalline solid  
**Storage:** -20°C  
**Stability:** ≥2 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

### Laboratory Procedures

Olanzapine is supplied as a crystalline solid. A stock solution may be made by dissolving the olanzapine in the solvent of choice. Olanzapine is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide, which should be purged with an inert gas. The solubility of olanzapine in these solvents is approximately 1, 16, and 20 mg/ml, respectively.

Olanzapine is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, olanzapine should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Olanzapine has a solubility of approximately 0.5 mg/ml in a 1:1 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

### Description

Olanzapine is an atypical antipsychotic that binds to dopamine D<sub>1</sub>, D<sub>2</sub>, and D<sub>4</sub> receptors (K<sub>i</sub>s = 31, 11, and 27 nM, respectively) as well as the serotonin (5-HT) receptor subtypes 5-HT<sub>2A</sub>, 5-HT<sub>2C</sub>, and 5-HT<sub>3</sub> (K<sub>i</sub>s = 4, 11, and 57 nM, respectively).<sup>1</sup> It also binds to M<sub>1</sub> muscarinic acetylcholine, α<sub>1</sub>-adrenergic, and histamine H<sub>1</sub> receptors (K<sub>i</sub>s = 2, 19, and 7 nM, respectively). Olanzapine (0.5 mg/kg, i.p.) decreases immobility time in the forced swim test in non-stressed and prenatally-stressed rats, indicating antidepressant-like activity.<sup>2</sup> It also decreases the number of avoidances made in the conditioned avoidance response test in rats when administered at doses of 0.5 and 1 mg/kg.<sup>3</sup> Formulations containing olanzapine have been used in the treatment of schizophrenia and bipolar disorder.

### References

1. Bymaster, F.P., Calligaro, D.O., Falcone, J.F., *et al.* Radioreceptor binding profile of the atypical antipsychotic olanzapine. *Neuropsychopharmacology* **14**(2), 87-96 (1996).
2. Nowakowska, E., Kus, K., Ratajczak, P., *et al.* The influence of aripiprazole, olanzapine and enriched environment on depressant-like behavior, spatial memory dysfunction and hippocampal level of BDNF in prenatally stressed rats. *Pharmacol. Rep.* **66**(3), 404-411 (2014).
3. Ashby, D.M., Lapish, C.C., and Phillips, A.G. Stability of avoidance behaviour following repeated intermittent treatment with clozapine, olanzapine or D,L-govadine. *Behav. Pharmacol.* **26**(1-2), 133-138 (2015).

#### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

#### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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