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# Produktinformation

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- Diagnostik & molekulare Diagnostik
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## Lieferung & Zahlungsart

siehe unsere Liefer- und Versandbedingungen

## Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand


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# Olanzapine-$d_8$

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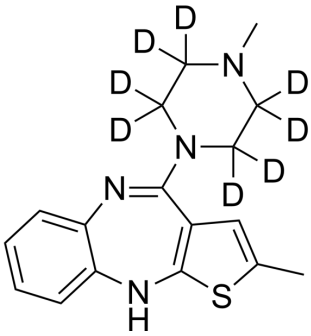
|---|---|
| **Cat. No.:** | HY-14541S2 |
| **CAS No.:** | 1093380-13-2 |
| **Molecular Formula:** | $C_{17}H_{12}D_8N_4S$ |
| **Molecular Weight:** | 320.48 |
| **Target:** | Apoptosis; Dopamine Receptor; Autophagy; mAChR; Mitophagy; 5-HT Receptor; Adrenergic Receptor; Isotope-Labeled Compounds |
| **Pathway:** | Apoptosis; GPCR/G Protein; Neuronal Signaling; Autophagy; Others |
| **Storage:** | Please store the product under the recommended conditions in the Certificate of Analysis. |



## BIOLOGICAL ACTIVITY

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|---|---|
| **Description** | Olanzapine-d8 is a deuterated labeled Olanzapine[1]. Olanzapine (LY170053) is a selective, orally active monoaminergic antagonist with high affinity binding to serotonin H1, 5HT2A/2C, 5HT3, 5HT6 ($K_i$=7, 4, 11, 57, and 5 nM, respectively), dopamine D1-4 ($K_i$=11 to 31 nM), muscarinic M1-5 ($K_i$=1.9-25 nM), and adrenergic α1 receptor ($K_i$=19 nM). Olanzapine is an atypical antipsychotic[2][3]. |
| **In Vitro** | Stable heavy isotopes of hydrogen, carbon, and other elements have been incorporated into drug molecules, largely as tracers for quantitation during the drug development process. Deuteration has gained attention because of its potential to affect the pharmacokinetic and metabolic profiles of drugs[1].<br>Olanzapine binds weakly to GABAA, Benzodiazepine (BZD), and β-adrenergic receptors ($K_i$>10 μM) [2][3].<br>Olanzapine induces autophagy in human SH-SY5Y neuronal cell line[4].<br>Olanzapine (1-100 μM for 144 h under serum starvation) results in a marked anti-proliferative effect in glioblastoma cell lines as well as glioma stem-like cells[5].<br>Olanzapine also enhances Temozolomide (HY-17364)'s anti-tumor activity in glioblastoma cell lines[5].<br>Olanzapine induces apoptosis and necrosis in glioblastoma cell lines[5].<br>MCE has not independently confirmed the accuracy of these methods. They are for reference only. |
| **In Vivo** | Olanzapine (0.75, 1.5 and 3 mg/kg) evaluates body weight and periuterine fat mass, as well as insulin, non-esterified fatty acids, triglycerides, and glucose levels in mice[6]<br>MCE has not independently confirmed the accuracy of these methods. They are for reference only. |

## REFERENCES

[1]. Vucicevic L, et al. Autophagy inhibition uncovers the neurotoxic action of the antipsychotic drug olanzapine. Autophagy. 2014;10(12):2362-78.

[2]. APPROVED AGREED-UPON LABELING.

[3]. Karpel-Massler G, et al. Olanzapine inhibits proliferation, migration and anchorage-independent growth in human glioblastoma cell lines and enhances temozolomide's antiproliferative effect. J Neurooncol. 2015 Mar;122(1):21-33.

[4]. Olanzapine for Injection, powder, for solution for intramuscular use.

[5]. Coccurello R, et al. Chronic administration of olanzapine induces metabolic and food intake alterations: a mousemodel of the atypical antipsychotic-associated adverse effects. Psychopharmacology (Berl). 2006 Jul;186(4):561-71.

[6]. Russak EM, et al. Impact of Deuterium Substitution on the Pharmacokinetics of Pharmaceuticals. Ann Pharmacother. 2019 Feb;53(2):211-216.



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