# Paliperidone-$d_4$

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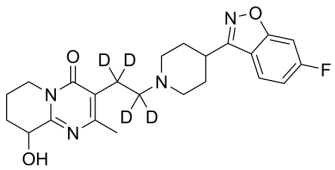
| **Cat. No.:** | HY-A0019S |
| **CAS No.:** | 1020719-55-4 |
| **Molecular Formula:** | $C_{23}H_{23}D_4FN_4O_3$ |
| **Molecular Weight:** | 430.51 |
| **Target:** | Dopamine Receptor; Adrenergic Receptor; 5-HT Receptor |
| **Pathway:** | GPCR/G Protein; Neuronal Signaling |
| **Storage:** | Please store the product under the recommended conditions in the Certificate of Analysis. |



## BIOLOGICAL ACTIVITY

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| **Description** | Paliperidone-$d_4$ is the deuterium labeled Paliperidone. Paliperidone (9-Hydroxyrisperidone), the major active metabolite of Risperidone, is a dopamine D2 antagonist and 5-HT2A antagonist. Paliperidone is also active as an antagonist at α1 and α2 adrenergic receptors and H1-histaminergic receptors. Paliperidone, a antipsychotic agent, shows efficacy against schizophrenia[1]. |
| **$IC_{50}$ & Target** | $D_2$ Receptor |
| **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>MCE has not independently confirmed the accuracy of these methods. They are for reference only. |

## REFERENCES


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

[2]. Mauri MC, Paletta S, Maffini M, et al. Clinical pharmacology of atypical antipsychotics: an update. EXCLI J. 2014;13:1163-1191. Published 2014 Oct 13.

[3]. Peng L, et al. Paliperidone protects prefrontal cortical neurons from damages caused by MK-801 via Akt1/GSK3β signaling pathway. Schizophr Res. 2013 Jun;147(1):14-23.

[4]. Yang MC, et al. Neuroprotection of paliperidone on SH-SY5Y cells against β-amyloid peptide(25-35), N-methyl-4-phenylpyridinium ion, and hydrogen peroxide-induced cell death. Psychopharmacology (Berl). 2011 Oct;217(3):397-410.

[5]. Kalman S, et al. 9-hydroxy-risperidone (9OHRIS) prevents stress-induced β-actin overexpression in rat hippocampus. Neuropsychopharmacol Hung. 2010 Sep;12(3):425-31.


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

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