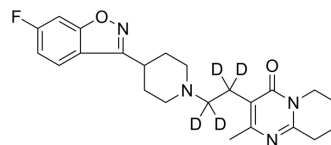


Risperidone-d₄

Cat. No.:	HY-110232		
CAS No.:	1020719-76-9		
Molecular Formula:	C ₂₃ H ₂₃ D ₄ FN ₄ O ₂		
Molecular Weight:	414.51		
Target:	5-HT Receptor; Dopamine Receptor; P-glycoprotein		
Pathway:	GPCR/G Protein; Neuronal Signaling; Membrane Transporter/Ion Channel		
Storage:	Powder	-20°C	3 years
	In solvent	-80°C	6 months
		-20°C	1 month



BIOLOGICAL ACTIVITY

Description	Risperidone-d ₄ is the deuterium labeled Risperidone. Risperidone is a serotonin 5-HT ₂ receptor blocker, P-Glycoprotein inhibitor and potent dopamine D ₂ receptor antagonist, with K _i s of 4.8, 5.9 nM for 5-HT _{2A} and dopamine D ₂ receptor, respectively.
IC₅₀ & 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] . 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]. Nyberg S, et al. 5-HT₂ and D₂ dopamine receptor occupancy in the living human brain. A PET study with risperidone. *Psychopharmacology (Berl).* 1993;110(3):265-72.; Zhu HJ, et al. Risperidone and paliperidone inhibit p-glycoprotein activity in vitro. *Neuropsychopharmacology.* 2007 Apr;32(4):757-64.; Chen ML, et al. Risperidone modulates the cytokine and chemokine release of dendritic cells and induces TNF- α -directed cell apoptosis in neutrophils. *Int Immunopharmacol.* 2012 Jan;12(1):197-204.; Bardgett ME, et al. Adult rats treated with risperidone during development are hyperactive. *Exp Clin Psychopharmacol.* 2013 Jun;21(3):259-67.

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

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