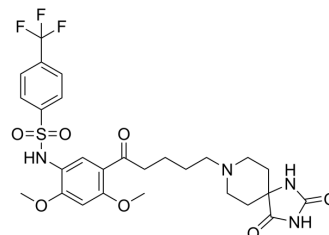


## RS-102221

Cat. No.:	HY-101365
CAS No.:	185376-97-0
Molecular Formula:	C <sub>27</sub> H <sub>31</sub> F <sub>3</sub> N <sub>4</sub> O <sub>7</sub> S
Molecular Weight:	612.62
Target:	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

<b>Description</b>	RS-102221 is a selective 5-HT <sub>2C</sub> receptor antagonist (K <sub>i</sub> =10 nM). RS-102221 shows nearly 100-fold selectivity for the 5-HT <sub>2C</sub> receptor as compared to the 5-HT <sub>2A</sub> and 5-HT <sub>2B</sub> receptors. RS-102221 can promote the differentiation of new nerve cells. RS-102221 increases food-intake and weight-gain in rats <sup>[1][2]</sup> .										
<b>IC<sub>50</sub> &amp; Target</b>	5-HT <sub>2C</sub> Receptor 10 nM (K <sub>i</sub> )	5-HT <sub>2A</sub> Receptor	5-HT <sub>2B</sub> Receptor								
<b>In Vitro</b>	<p>RS-102221 (0.3-300nM; 24 h) promotes the differentiation of adult hippocampal neural precursor cells (ahNPCs) and significantly increases the percentage of MAP-2<sup>+</sup> cells<sup>[1]</sup>.</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p> <p>Cell Differentiation Assay<sup>[1]</sup></p> <table border="1"> <tr> <td>Cell Line:</td> <td>Mouse adult hippocampal neural progenitor cells (ahNPCs)</td> </tr> <tr> <td>Concentration:</td> <td>0.3, 1, 10, 30, 100, and 300 nM</td> </tr> <tr> <td>Incubation Time:</td> <td>24 hours</td> </tr> <tr> <td>Result:</td> <td>Significantly increases the percentage of MAP-2<sup>+</sup> cells at 10 nM.</td> </tr> </table>			Cell Line:	Mouse adult hippocampal neural progenitor cells (ahNPCs)	Concentration:	0.3, 1, 10, 30, 100, and 300 nM	Incubation Time:	24 hours	Result:	Significantly increases the percentage of MAP-2 <sup>+</sup> cells at 10 nM.
Cell Line:	Mouse adult hippocampal neural progenitor cells (ahNPCs)										
Concentration:	0.3, 1, 10, 30, 100, and 300 nM										
Incubation Time:	24 hours										
Result:	Significantly increases the percentage of MAP-2 <sup>+</sup> cells at 10 nM.										
<b>In Vivo</b>	<p>RS-102221 (2 mg/kg; i.p.; once daily for 14 d) increases food-intake and weight-gain in rats<sup>[2]</sup>.</p> <p>RS-102221 (2 mg/kg; i.p.; single dose), combined with the 3,4-Methylenedioxy-N-methamphetamine (MDMA or 'ecstasy'), suppresses the MDMA-induced hypophagia for the first 1 h period, and also suppresses MDMA-induced hyperlocomotion in mice<sup>[3]</sup>.</p> <p>RS-102221 (2 mg/kg; i.p.; single dose) can reduce anxiety and reduce the amplitude of startle reflex in mice in light and dark test<sup>[4]</sup>.</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p>										

### REFERENCES

[1]. Bortolotto V, et al. Proneurogenic Effects of Trazodone in Murine and Human Neural Progenitor Cells. ACS Chem Neurosci. 2017 Sep 20;8(9):2027-2038.

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[2]. Bonhaus DW, et al. RS-102221: a novel high affinity and selective, 5-HT<sub>2C</sub> receptor antagonist. *Neuropharmacology*. 1997 Apr-May;36(4-5):621-9.

[3]. Salzer I, et al. Control of sensory neuron excitability by serotonin involves 5HT<sub>2C</sub> receptors and Ca<sup>2+</sup>-activated chloride channels. *Neuropharmacology*. 2016 Nov;110(Pt A):277-286.

[4]. Conductier G, et al. 3,4-N-methylenedioxymethamphetamine-induced hypophagia is maintained in 5-HT<sub>1B</sub> receptor knockout mice, but suppressed by the 5-HT<sub>2C</sub> receptor antagonist RS102221. *Neuropsychopharmacology*. 2005 Jun;30(6):1056-63.

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

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