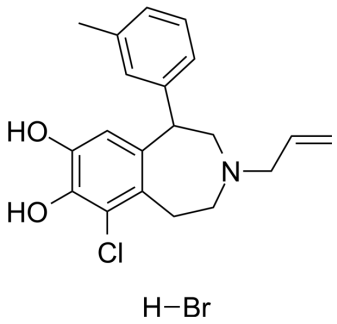
SKF83822 hydrobromide

Cat. No.:	HY-103411
CAS No.:	74115-10-9
Molecular Formula:	$C_{20}H_{23}BrClNO_2$
Molecular Weight:	424.76
Target:	Dopamine Receptor
Pathway:	GPCR/G Protein; Neuronal Signaling
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	SKF83822 hydrobromide is a potent dopamine D1 receptor agonist. SKF83822 hydrobromide activates $G_s/_{olf}$/adenylyl cyclase (AC)-coupled D1 receptors, but not phospholipase C (PLC)-coupled D1-like receptors[1].
IC_{50} & Target	D_1 Receptor

In Vitro

SKF83822 (1 μM) increases DARPP-32 phosphorylation in Neostriatal slices. Treatment with SKF83822 for 5 min stimulates DARPP-32 Thr34 phosphorylation maximally at a concentration of 100 μM with a half maximal effect at ~1 μM. SKF83822 (1 μM) does not affect the phosphorylation of DARPP-32 at Thr75, Ser97 or Ser130[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Western Blot Analysis[1]

Cell Line:	Neostriatal slices
Concentration:	1 μM
Incubation Time:	0, 0.5, 2, 5, and 10 minutes
Result:	Treatment with 1 μM increased the level of phospho-Thr34 DARPP-32, maximally by ⊠6-fold within 2 min of incubation.

In Vivo

SKF83822 activates dopamine D1 receptors coupled to Gαs/olf and downstream cyclase activity. SKF83822 produces a locomotor response in both rodent and non-human primate models without affecting stereotypy, intense grooming, or dyskinesia. An acute injection of SKF83822 (0.4 mg/kg; i.p.) induced a greater than threefold increase in locomotor activity relative to the baseline period for each genotype[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	$G_{\alpha q}$ knockout mice[1]
Dosage:	0.4 mg/kg
Administration:	
Result:	There was a significant increase in locomotor activity in each genotype.

REFERENCES

[1]. Mahomi Kuroiwa, et al. Regulation of DARPP-32 phosphorylation by three distinct dopamine D1-like receptor signaling pathways in the neostriatum. J Neurochem. 2008 Nov;107(4):1014-26.

[2]. Aliya L Frederick, et al. Neurobehavioral phenotyping of G(αq) knockout mice reveals impairments in motor functions and spatial working memory without changes in anxiety or behavioral despair. Front Behav Neurosci. 2012 Jun 19;6:29.

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