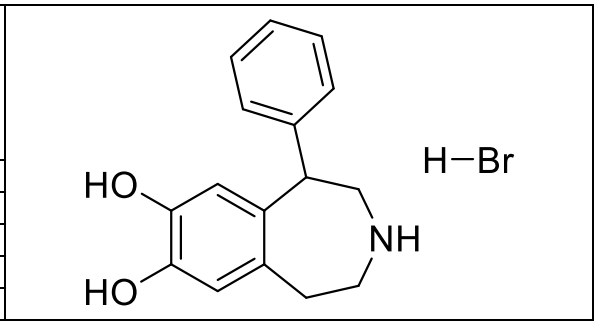
Product data sheet

MedKoo Cat#: 555570 Name: SKF-38393 HBr CAS#: 20012-10-6 (HBr) Chemical Formula: $C_{17}H_{19}Br_2NO$ Molecular Weight: 413.15	
Product supplied as:	Powder
Purity (by HPLC):	≥ 98%
Shipping conditions	Ambient temperature
Storage conditions:	Powder: -20°C 3 years; 4°C 2 years.
	In solvent: -80°C 3 months; -20°C 2 weeks.

1. Product description:

SKF-38393, also known as (+/-)-SKF-38393, is a synthetic compound of the benzazepine chemical class which acts as a selective D1/D5 receptor partial agonist. It has stimulant and anorectic effects. SKF-38393 improves temporal order memory performance in maternally deprived rats. SKF-38393 reverses cocaine-conditioned place preference in mice. SKF-38393 induces GAP-43 expression and long-term potentiation in hippocampus in vivo.

2. CoA, QC data, SDS, and handling instruction

SDS and handling instruction, CoA with copies of QC data (NMR, HPLC and MS analytical spectra) can be downloaded from the product web page under "QC And Documents" section. Note: copies of analytical spectra may not be available if the product is being supplied by MedKoo partners. Whether the product was made by MedKoo or provided by its partners, the quality is 100% guaranteed.

3. Solubility data

Solvent	Max Conc. mg/mL	Max Conc. mM
DMSO	33.62	100
Water	8.41	25 (with gentle warming)

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	**1 mg**	**5 mg**	**10 mg**
1 mM	2.97 mL	14.87 mL	29.74 mL
5 mM	0.59 mL	2.97 mL	5.95 mL
10 mM	0.30 mL	1.49 mL	2.97 mL
50 mM	0.06 mL	0.30 mL	0.59 mL

5. Molarity Calculator, Reconstitution Calculator, Dilution Calculator

Please refer the product web page under section of "Calculator"

6. Recommended literature which reported protocols for in vitro and in vivo study

In vitro study

1. Ohta K, Kuno S, Mizuta I, Fujinami A, Matsui H, Ohta M. Effects of dopamine agonists bromocriptine, pergolide, cabergoline, and SKF-38393 on GDNF, NGF, and BDNF synthesis in cultured mouse astrocytes. Life Sci. 2003 Jun 20;73(5):617-26. doi: 10.1016/s0024-3205(03)00321-7. PMID: 12770616.
2. Johnson DE, Ochieng J, Evans SL. The growth inhibitory properties of a dopamine agonist (SKF 38393) on MCF-7 cells. Anticancer Drugs. 1995 Jun;6(3):471-4. doi: 10.1097/00001813-199506000-00017. PMID: 7670147.

In vivo study

1. Park HJ, Zhao TT, Park KH, Lee MK. Repeated treatments with the D1 dopamine receptor agonist SKF-38393 modulate cell viability via sustained ERK-Bad-Bax activation in dopaminergic neuronal cells. Behav Brain Res. 2019 Jul 23;367:166-175. doi: 10.1016/j.bbr.2019.03.035. Epub 2019 Mar 28. PMID: 30930179.
2. Moro H, Sato H, Ida I, Oshima A, Sakurai N, Shihara N, Horikawa Y, Mikuni M. Effects of SKF-38393, a dopamine D1 receptor agonist on expression of amphetamine-induced behavioral sensitization and expression of immediate early gene arc in prefrontal cortex of rats. Pharmacol Biochem Behav. 2007 May;87(1):56-64. doi: 10.1016/j.pbb.2007.03.020. Epub 2007 Apr 6. PMID: 17499349.

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7. Bioactivity

Biological target:

SKF-38393 HBr is a partial agonist of the dopamine D1-like receptors D1 and D5 (Kis = 1 and ~0.5 nM, respectively). It less potently binds D2, D3, and D4 receptors (Kis = ~150, 5,000, and 1,000 nM, respectively).

In vitro activity

This study implies that SKF-38393 selectively inhibited the growth of MCF-7 cells, highlighting its potential as a targeted therapeutic agent for this specific breast cancer cell line. After 1 day, various breast cancer cell lines were exposed to SKF-38393 for 2 days. The results indicated that SKF-38393 caused a significant decrease in proliferation of MCF-7 cells. The IC50 value was 0.1 +/- 0.03 microM. There was no significant effect on MDA-MB231 and MCF-10 cells.

Reference: Anticancer Drugs. 1995 Jun;6(3):471-4. https://pubmed.ncbi.nlm.nih.gov/7670147/

In vivo activity

SKF-38393 has neurotoxic effects on dopaminergic neurons by activating of the sustained ERK-Bad-Bax system. In a rat model of Parkinson's disease, SKF-38393 administration for 8 weeks induced phosphorylation of sustained ERK1/2 and Bad at Ser155 (BadSer155), and augmented Bax expression. However, SKF-38393 only increased Bad phosphorylation at Ser112 (BadSer112) when administered for 4 weeks.

Reference: Behav Brain Res. 2019 Jul 23;367:166-175. https://pubmed.ncbi.nlm.nih.gov/30930179/