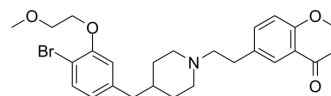


## DSP-1053

Cat. No.:	HY-111419		
CAS No.:	1176326-76-3		
Molecular Formula:	C <sub>26</sub> H <sub>32</sub> BrNO <sub>4</sub>		
Molecular Weight:	502.44		
Target:	Serotonin Transporter; 5-HT Receptor		
Pathway:	Neuronal Signaling; GPCR/G Protein		
Storage:	Powder	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	6 months
		-20°C	1 month



## SOLVENT & SOLUBILITY

### In Vitro

DMSO : 200 mg/mL (398.06 mM; Need ultrasonic)

Concentration	Solvent	Mass		
		1 mg	5 mg	10 mg
Preparing Stock Solutions	1 mM	1.9903 mL	9.9514 mL	19.9029 mL
	5 mM	0.3981 mL	1.9903 mL	3.9806 mL
	10 mM	0.1990 mL	0.9951 mL	1.9903 mL

Please refer to the solubility information to select the appropriate solvent.

### In Vivo

- Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline  
Solubility: ≥ 2.5 mg/mL (4.98 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)  
Solubility: ≥ 2.5 mg/mL (4.98 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% corn oil  
Solubility: ≥ 2.5 mg/mL (4.98 mM); Clear solution

## BIOLOGICAL ACTIVITY

### Description

DSP-1053, a benzylpiperidine derivative, is a potent Serotonin Transporter (SERT) inhibitor with a K<sub>i</sub> of 1.02 nM. DSP-1053 shows partial 5-HT<sub>1A</sub> receptor agonistic activity with a K<sub>i</sub> of 5.05 nM. DSP-1053 has antidepressant activity<sup>[1]</sup>.

### IC<sub>50</sub> & Target

5-HT<sub>1A</sub> Receptor  
5.05 nM (K<sub>i</sub>)

---

## REFERENCES

---

[1]. Yoshinaga H, et al. Discovery of DSP-1053, a novel benzylpiperidine derivative with potent serotonin transporter inhibitory activity and partial 5-HT1A receptor agonistic activity. *Bioorg Med Chem*. 2018 May 1;26(8):1614-1627.

---

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

Tel: 609-228-6898

Fax: 609-228-5909

E-mail: [tech@MedChemExpress.com](mailto:tech@MedChemExpress.com)

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA