

Product data sheet



MedKoo Cat#: 556020 Name: SEN-12333 CAS#: 874450-44-9 Chemical Formula: C ₂₀ H ₂₅ N ₃ O ₂ Exact Mass: 339.1947 Molecular Weight: 339.439	
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:

SEN-12333, also known as WAY-31753, is a selective agonist of the alpha(7) nAChR (EC₅₀ = 1.6 μM, K_i = 260 nM at rat α7 nAChRs). SEN-12333 displayed excellent in vitro and in vivo profiles, excellent brain penetration and oral bioavailability, and demonstrates in vivo efficacy in multiple behavioural cognition models.

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

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	2.95 mL	14.73 mL	29.46 mL
5 mM	0.59 mL	2.95 mL	5.89 mL
10 mM	0.29 mL	1.47 mL	2.95 mL
50 mM	0.06 mL	0.29 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

Haydar SN, Ghiron C, Bettinetti L, Bothmann H, Comery TA, Dunlop J, La Rosa S, Micco I, Pollastrini M, Quinn J, Roncarati R, Scali C, Valacchi M, Varrone M, Zanaletti R. SAR and biological evaluation of SEN12333/WAY-317538: Novel alpha 7 nicotinic acetylcholine receptor agonist. *Bioorg Med Chem.* 2009 Jul 15;17(14):5247-58. doi: 10.1016/j.bmc.2009.05.040. Epub 2009 May 21. Erratum in: *Bioorg Med Chem.* 2010 Jan 15;18(2):985. PMID: 19515567.

In vivo study

Haydar SN, Ghiron C, Bettinetti L, Bothmann H, Comery TA, Dunlop J, La Rosa S, Micco I, Pollastrini M, Quinn J, Roncarati R, Scali C, Valacchi M, Varrone M, Zanaletti R. SAR and biological evaluation of SEN12333/WAY-317538: Novel alpha 7 nicotinic acetylcholine receptor agonist. *Bioorg Med Chem.* 2009 Jul 15;17(14):5247-58. doi: 10.1016/j.bmc.2009.05.040. Epub 2009 May 21. Erratum in: *Bioorg Med Chem.* 2010 Jan 15;18(2):985. PMID: 19515567.

7. Bioactivity

Biological target:

α7 nicotinic acetylcholine receptor (nAChR) agonist.

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In vitro activity

Alpha 7 nAChRs are expressed in brain regions associated with cognitive function, regulate cholinergic neurotransmission and have been shown to be down regulated in both schizophrenia and Alzheimer's disease. Herein a novel, potent small molecule agonist of the alpha 7 nAChR, SEN12333/WAY-317538 was reported. This compound is a selective agonist of the alpha(7) nAChR with excellent in vitro and in vivo profiles, excellent brain penetration and oral bioavailability, and demonstrates in vivo efficacy in multiple behavioural cognition models. The SAR and biological evaluation of this series of compounds are discussed.

Reference: Haydar SN, Ghiron C, Bettinetti L, Bothmann H, Comery TA, Dunlop J, La Rosa S, Micco I, Pollastrini M, Quinn J, Roncarati R, Scali C, Valacchi M, Varrone M, Zanaletti R. SAR and biological evaluation of SEN12333/WAY-317538: Novel alpha 7 nicotinic acetylcholine receptor agonist. *Bioorg Med Chem.* 2009 Jul 15;17(14):5247-58. doi: 10.1016/j.bmc.2009.05.040. Epub 2009 May 21. Erratum in: *Bioorg Med Chem.* 2010 Jan 15;18(2):985. PMID: 19515567.

In vivo activity

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Note: The information listed here was extracted from literature. MedKoo has not independently retested and confirmed the accuracy of these methods. Customer should use it just for a reference only.