

Product Specification Sheet

Product Name: PNU-282987

Catalog Number: C7282

Technical information:

Chemical Formula: C₁₄H₁₇ClN₂O

CAS #: 123464-89-1

Molecular Weight: 264.75

Purity: > 98%

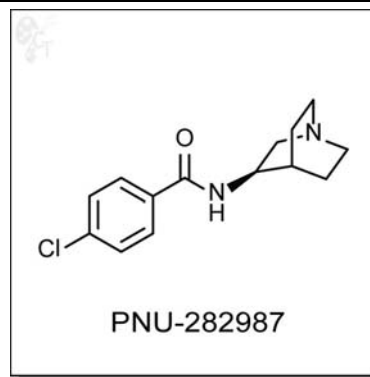
Appearance: white solid

Solubility: Soluble in DMSO up to 100 mM

Chemical Name: N-(3R)-1-Azabicyclo[2.2.2]oct-3-yl-4-chlorobenzamide

Storage: Store solid powder at 4°C desiccated; Store DMSO solution at -20°C.

Shelf Life: In the unopened package, powder is stable for 1 year and DMSO solution is stable for 6 months under proper storage condition.



- Handling:**
- To make 10 mM stock solution, add 0.378mL of DMSO for each mg of PNU-282987.
 - For DMSO solution, briefly spin the vial at 500 rpm in a 50 mL conical tube to ensure maximum sample recovery.

Biological Activity: PNU-282987 is an $\alpha 7$ nAChR agonist with an EC₅₀ of 154 nM against the $\alpha 7$ -5HT₃ chimera. Up to concentrations of 100 μ M, PNU-282987 displayed no agonist activity and negligible antagonistic activity (60 μ M) toward the neuromuscular junction form of the receptor and the ganglionic nAChR ($\alpha 3\beta 4$). PNU-282987 is a functional antagonist of the 5-HT₃ receptor at an IC₅₀ of 4.5 μ M. (1)

Cotreatment of PC12 cells with nAChR modulator PNU120596 and PNU-282987 significantly induces ERK1/2 phosphorylation. (2) In a chloral hydrate-anesthetized rat model, PNU-282987 was shown to restore amphetamine-induced sensory gating deficit and may have implications in the treatment of schizophrenia. (3)

- Reference:**
1. Bodnar et al., Discovery and Structure-Activity Relationship of Quinuclidine Benzamides as Agonists of $\alpha 7$ Nicotinic Acetylcholine Receptors. *J. Med. Chem.* 2005, 48, 905-908. Pubmed ID: 15715459
 2. El Kouhen et al., Pharmacology of $\alpha 7$ nicotinic acetylcholine receptor mediated extracellular signal-regulated kinase signalling in PC12 cells. *Br. J. Pharmacology*, 2009, 156, 638-648. Pubmed ID: 19226255
 3. Hajos et al., The Selective $\alpha 7$ Nicotinic Acetylcholine Receptor Agonist PNU-282987 [N-[(3R)-1-Azabicyclo[2.2.2]oct-3-yl]-4-chlorobenzamide Hydrochloride] Enhances GABAergic Synaptic Activity in Brain Slices and Restores Auditory Gating Deficits in Anesthetized Rats. *J. Pharmacol. Exp. Ther.* 2005, 312(3), 1213-1222. Pubmed ID: 15523001

To reorder: <http://www.cellagentech.com/PNU-282987/>

For Technical Support: technical@cellagentech.com

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