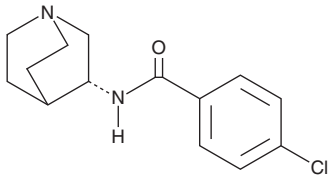
PRODUCT INFORMATION

PNU 282987

Item No. 17424

CAS Registry No.:	711085-63-1
Formal Name:	N-(3R)-1-azabicyclo[2.2.2]oct-3-yl-4-chloro-benzamide
MF:	$C_{14}H_{17}ClN_2O$
FW:	264.8
Purity:	≥98%
UV/Vis.:	λ_{max}: 237 nm
Supplied as:	A crystalline solid
Storage:	-20°C
Stability:	≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

PNU 282987 is supplied as a crystalline solid. A stock solution may be made by dissolving the PNU 282987 in the solvent of choice, which should be purged with an inert gas. PNU 282987 is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of PNU 282987 in these solvents is approximately 20, 30, and 10 mg/ml, respectively.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of PNU 282987 can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of PNU 282987 in PBS (pH 7.2) is approximately 5 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

PNU 282987 is a potent agonist of α7-containing neuronal nicotinic acetylcholine receptors (nAChRs; K_i = 26 nM for the rat receptor).[1] It has negligible activity against α1β1γδ and α3β4 nAChRs as well as a panel of monoamine, muscarinic, glutamate, and GABA receptors, except 5-HT_3 (K_i = 930 nM).[1] PNU 282987 evokes whole-cell currents from cultured rat hippocampal neurons and enhances GABAergic synaptic activity when applied to hippocampal slices.[2]

References

1. Bodnar, A.L., Cortes-Burgos, L.A., Cook, K.K., *et al.* Discovery and structure-activity relationship of quinuclidine benzamides as agonists of α7 nicotinic acetylcholine receptors. *J. Med. Chem.* **48(4)**, 905-908 (2005).
2. Hajós, M., Hurst, R.S., Hoffmann, W.E., *et al.* The selective α7 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.* **312(3)**, 1213-1222 (2005).

WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent *via* email to your institution.

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