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产品名称：PNU-282987
产品别名：PNU-282987

生物活性：

Description

PNU-282987 is a selective α7 nicotinic acetylcholine receptor(α7 nAChR) agonist with Ki of 26 nM; no affinity for α1β1γδ and α3β4 nAChRs (IC50 ≥ 60 μM). IC50 value: 26 nM(Ki) [1] Target: α7 nAChR agonist in vitro: Treatment with PNU-282987 resulted in an attenuation of neuroinflammation in the MPTP-lesioned SN. Furthermore, PNU-282987 attenuated MPTP-induced dopaminergic cell loss in the SN and reduced striatal dopamine depletion [3]. in vivo: Mice were subjected to 70% partial hepatic I/R for 60 min and pretreated with either vehicle or with PNU-282987, and blood and hepatic tissue samples were collected at 3, 6, and 12 h following reperfusion. pretreatment with PNU-282987 decreased serum transaminase levels and ameliorated liver injury after hepatic I/R. Moreover, pretreatment with PNU-282987 suppressed NF-κB activation, cytokine production (tumor necrosis factor α, interleukin 1β), and HMGB1 expression in liver after hepatic I/R [2]. Mice treated with 2.5 and 10 mg/kg of PNU devoted less time to rearing into open arms. In the HB task, MC mice displayed higher exploratory activity reflected in more head-dips (HD) during the first minute than EE and SE, whereas EE displayed low exploration levels reflected in total HD (5 min) [4].

Solvent&Solubility

In Vitro:

DMSO : ≥ 61 mg/mL (202.52 mM)

H_2O : 50 mg/mL (166.00 mM; Need ultrasonic)

* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	3.3199 mL	16.5997 mL	33.1994 mL
	5 mM	0.6640 mL	3.3199 mL	6.6399 mL
	10 mM	0.3320 mL	1.6600 mL	3.3199 mL

*请根据产品在不同溶剂中的溶解度选择合适的溶剂配制储备液；一旦配成溶液，请分装保存，避免反复冻融造成的产品失效。

储备液的保存方式和期限：-80°C, 6 months; -20°C, 1 month。-80°C 储存时，请在 6 个月内使用，-20°C 储存时，请在 1 个月内使用。

In Vivo:

1.PNU-282987 is dissolved in saline[5].

References

[1]. Bodnar AL, et al. Discovery and structure-activity relationship of quinuclidine benzamides as agonists of alpha7 nicotinic acetylcholine receptors. J Med Chem. 2005 Feb 24;48(4):905-8.

[2]. Dong Jun Yu, et al. Effect of ischemic preconditioning combined with α7 nAchR agonists on limb ischemia-reperfusion lung injury in rat. Biomed Res. 2017; Special Issue: ISSN 0970.

[3]. Li F, et al. The protective effect of PNU-282987, a selective α7 nicotinic acetylcholine receptor agonist, on the hepatic ischemia-reperfusion injury is associated with the inhibition of high-mobility group box 1 protein expression and nuclear factor κB activation in mice. Shock. 2013 Feb;39(2):197-203.

[4]. Stuckenholz V, et al. The α7 nAChR agonist PNU-282987 reduces inflammation and MPTP-induced

nigral dopaminergic cell loss in mice. J Parkinsons Dis. 2013;3(2):161-72.

[5]. Mesa-Gresa P, et al. Behavioral effects of different enriched environments in mice treated with the cholinergic agonist PNU-282987. Behav Processes. 2014 Mar;103:117-24.