

## Br-PBTC

## Chemical Properties

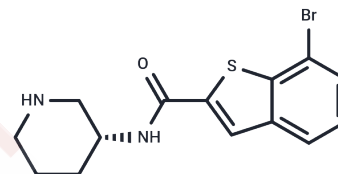
CAS No. : 1839519-57-1

Formula: C<sub>14</sub>H<sub>15</sub>BrN<sub>2</sub>O<sub>5</sub>

Molecular Weight: 339.25

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year

Actual storage temperature shall be subject to the COA.



## Biological Description

Description	Br-PBTC is a highly potent, 2/4 subtype-selective positive allosteric modulator of nicotinic acetylcholine receptors (nAChRs). It specifically targets $\alpha 2\beta 2$ , $\alpha 2\beta 4$ , $\alpha 4\beta 2$ , $\alpha 4\beta 4$ , $(\alpha 4\beta 2)2\alpha 4$ , and $(\alpha 4\beta 2)2\beta 2$ subtypes of nAChRs, with EC <sub>50</sub> values ranging from 0.1 to 0.6 $\mu$ M. Br-PBTC exerts its activity by binding to the c-tail region of an $\alpha$ subunit.
Targets(IC <sub>50</sub> )	Others,AChR
In vitro	Br-PBTC, within a concentration range of 0.01 to 10 $\mu$ M, selectively influences the 2 and 4 subunits in HEK cells, with a notably higher impact on nAChRs featuring 2 subunits compared to those with 4 subunits when tested at 3 $\mu$ M in oocytes. Furthermore, at a concentration of 3 $\mu$ M, Br-PBTC enhances ACh-induced activation of $\alpha 4\beta 2$ nAChRs by 385 $\pm$ 61% within 50 seconds in oocytes and similarly reactivates short-term desensitized nAChRs. In HEK cells, Br-PBTC not only boosts channel activation to the maximum by ACh within 15 minutes but also reactivates both short-term and long-term desensitized nAChRs, with the latter observed over varying concentrations (0.1-100 $\mu$ M) and durations (0 to 140 seconds).

## Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.9477 mL	14.7384 mL	29.4768 mL
5 mM	0.5895 mL	2.9477 mL	5.8954 mL
10 mM	0.2948 mL	1.4738 mL	2.9477 mL
50 mM	0.059 mL	0.2948 mL	0.5895 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Wang J, et al. A Novel  $\alpha 2/\alpha 4$  Subtype-selective Positive Allosteric Modulator of Nicotinic Acetylcholine Receptors Acting from the C-tail of an  $\alpha$  Subunit. J Biol Chem. 2015;290(48):28834-28846.

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