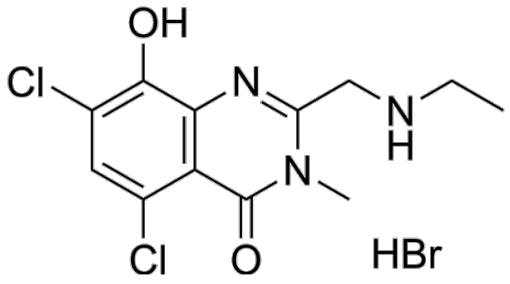
# Product Data Sheet

Product Name: PBT434
Cat. No.: GC70495

## Chemical Properties

| | | | |
|---|---|---|---|
| Cas. No. | 1232841-78-9 | | |
| Formula | $C_{12}H_{14}BrCl_2N_3O_2$ | M.Wt | 383.07 |
| Solubility | | Storage | |
| General tips | For obtaining a higher solubility , please warm the tube at 37 °C and shake it in the ultrasonic bath for a while.Stock solution can be stored below -20°C for several months. | | |
| Shipping Condition | Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request. | | |
| Structure | | | |




## Background

PBT434 is a potent, orally active and cross the blood-brain barrier α-synuclein aggregation inhibitor. PBT434 can be used as a iron chelator and modulates transcellular iron trafficking. PBT434 inhibits iron-mediated redox activity and iron-mediated aggregation of α-synuclein. PBT434 prevents the loss of substantia nigra pars compacta neurons (SNpc). PBT434 has the potential for the research of Parkinson's disease (PD).

PBT434 (0-20 μM; 3 h) significantly inhibits $H_2O_2$ production by iron and significantly reduces the rate of Fe-mediated aggregation of α-synuclein[1].

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PBT434 (0-100 μM; 24 h) shows no cytotoxic effects on brain microvascular endothelial cells [2].
PBT434 (20 μM; 24 h) incrases the expression of total TfR, Cp protein level in hBMVEC [2].

PBT434 (30 mg/kg; p.o.; daily for 21 days) significantly preserved neuron numbers in the 6-OHDA intoxication model and shows significantly fewer rotations in the L-DOPA model, significantly reducing SNpc neuronal loss in the MPTP model[1].

References:
[1]. Finkelstein DI, et al. The novel compound PBT434 prevents iron mediated neurodegeneration and alpha-synuclein toxicity in multiple models of Parkinson's disease. Acta Neuropathol Commun. 2017 Jun 28;5(1):53.
[2]. Bailey DK, Clark W, Kosman DJ. The iron chelator, PBT434, modulates transcellular iron trafficking in brain microvascular endothelial cells. PLoS One. 2021 Jul 26;16(7):e0254794.

***Caution: Product has not been fully validated for medical applications. For research use only.***
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