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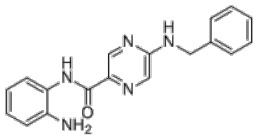
Data Sheet

Global Supplier of Chemical Probes, Inhibitors & Agonists.

Product Name	:	HDAC3 inhibitor PT3
Cat. No.	:	PC-72343
CAS No.	:	2710273-81-5
Molecular Formula	:	$C_{18}H_{17}N_5O$
Molecular Weight	:	319.368
Target	:	HDAC
Solubility	:	10 mM in DMSO



Biological Activity

HDAC3 inhibitor PT3 (ESI1) is a novel potent, selective, BBB-permeable **HDAC3** inhibitor with IC50 of 250 nM, promotes CNS myelin production and regeneration.
PT3 exhibited higher selectivity for HDAC3 over HDAC1, HDAC6, and HDAC8 compared to the reference compound CI994.
PT3 upregulated H3K9 acetylation, CREB 1, BDNF, TRKB, Nr4a2, c-fos, PKA, GAP 43 and MMP9 expression in mouse neuronal (N2A) cells.
PT3 significantly improved the discrimination index in C57/BL6 mice in the novel object recognition (NOR) model, significant increased in H3K9 acetylation in hippocampus.
PT3 upregulated CREB 1, BDNF, TRKB, Nr4a2, c-fos, PKA, GAP 43, PSD 95 and MMP9 expression in mice treated with PT3.
ESI1 triggered nuclear condensate formation of master lipid-metabolic regulators SREBP1/2, concentrating transcriptional co-activators to drive lipid/cholesterol biosynthesis.
ESI1 enhances (re)myelination in aged mice while reversing cognitive decline

References

Sravani Pulya, et al. ***ACS Chem Neurosci***. 2021 Mar 3;12(5):883-892.
2. Liu X, et al. ***Cell***. 2024 Apr 25:S0092-8674(24)00400-8.

E-mail: tech@probechem.com