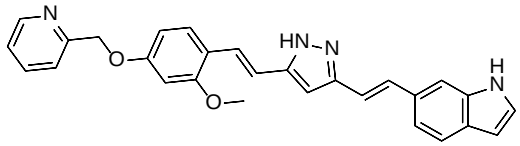
Product data sheet

MedKoo Cat#: 530903 Name: PE859 CAS: 1402727-29-0 Chemical Formula: $C_{28}H_{24}N_4O_2$ Exact Mass: 448.1899 Molecular Weight: 448.526	
Product supplied as:	Powder
Purity (by HPLC):	≥ 98%
Shipping conditions	Ambient temperature
Storage conditions:	Powder: -20°C 3 years; 4°C 2 years.
	In solvent: -80°C 3 months; -20°C 2 weeks.

1. Product description:
PE859 is a potent inhibitor of both tau and Aβ aggregation with IC50 values of 0.66 and 1.2 μM, respectively. PE859 inhibits Amyloid-β and Tau Aggregation, and Ameliorates Cognitive Dysfunction in Senescence-Accelerated Mouse Prone 8. PE859 reduces aggregated tau and prevents onset and progression of neural dysfunction in vivo.

2. CoA, QC data, SDS, and handling instruction
SDS and handling instruction, CoA with copies of QC data (NMR, HPLC and MS analytical spectra) can be downloaded from the product web page under "QC And Documents" section. Note: copies of analytical spectra may not be available if the product is being supplied by MedKoo partners. Whether the product was made by MedKoo or provided by its partners, the quality is 100% guaranteed.

3. Solubility data

Solvent	Max Conc. mg/mL	Max Conc. mM
DMSO	50.0	111.48

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	2.23 mL	11.15 mL	22.30 mL
5 mM	0.45 mL	2.23 mL	4.46 mL
10 mM	0.22 mL	1.11 mL	2.23 mL
50 mM	0.05 mL	0.22 mL	0.45 mL

5. Molarity Calculator, Reconstitution Calculator, Dilution Calculator
Please refer the product web page under section of "Calculator"

6. Recommended literature which reported protocols for in vitro and in vivo study
In vitro study

Okuda M, Fujita Y, Hijikuro I, Wada M, Uemura T, Kobayashi Y, Waku T, Tanaka N, Nishimoto T, Izumi Y, Kume T, Akaike A, Takahashi T, Sugimoto H. PE859, A Novel Curcumin Derivative, Inhibits Amyloid-β and Tau Aggregation, and Ameliorates Cognitive Dysfunction in Senescence-Accelerated Mouse Prone 8. J Alzheimers Dis. 2017;59(1):313-328. doi: 10.3233/JAD-161017. PMID: 28598836.

In vivo study

Okuda M, Hijikuro I, Fujita Y, Wu X, Nakayama S, Sakata Y, Noguchi Y, Ogo M, Akasofu S, Ito Y, Soeda Y, Tsuchiya N, Tanaka N, Takahashi T, Sugimoto H. PE859, a novel tau aggregation inhibitor, reduces aggregated tau and prevents onset and progression of neural dysfunction in vivo. PLoS One. 2015 Feb 6;10(2):e0117511. doi: 10.1371/journal.pone.0117511. PMID: 25659102; PMCID: PMC4319983.

7. Bioactivity
Biological target:

PE859 is a potent inhibitor of both tau and Aβ aggregation with IC50 values of 0.66 and 1.2 μM.

In vitro activity

Product data sheet

This study investigated the inhibitory activity of PE859 on Aβ aggregationin vitro and the therapeutic effects of PE859 on cognitive dysfunction via dual inhibition of Aβ and tau aggregation in vivo. PE859 inhibited Aβ aggregation in vitro and protected cultured cells from Aβ-induced cytotoxicity.

Reference: J Alzheimers Dis. 2017;59(1):313-328. https://pubmed.ncbi.nlm.nih.gov/28598836/

In vivo activity

This study identified a novel tau aggregation inhibitor, PE859. An oral administration of PE859 resulted in the significant reduction of sarkosyl-insoluble aggregated tau along with the prevention of onset and progression of the motor dysfunction in JNPL3 P301L-mutated human tau transgenic mice. These results suggest that PE859 is useful for the treatment of tauopathies.

Reference: PLoS One. 2015 Feb 6;10(2):e0117511. https://pubmed.ncbi.nlm.nih.gov/25659102/