

Product data sheet



MedKoo Cat#: 522694 Name: Gly-Pro-Glu CAS: 32302-76-4 Chemical Formula: C ₁₂ H ₁₉ N ₃ O ₆ Exact Mass: 301.1274 Molecular Weight: 301.299	
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:

Gly-Pro-Glu, also known as GPE, is a neuroprotective agent and the N-terminal tripeptide of IGF-1. Gly-Pro-Glu is neuroprotective after central administration in animal models of neurodegenerative processes, such as Huntington's, Parkinson's, Alzheimer's diseases, and varies acute brain injury animal models. GPE mimics insulin-like growth factor I effects on the somatostatin system through a mechanism independent of β -amyloid clearance that involves modulation of calcium and glycogen synthase kinase 3 β signaling.

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
TBD	TBD	TBD

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	3.32 mL	16.59 mL	33.19 mL
5 mM	0.66 mL	3.32 mL	6.64 mL
10 mM	0.33 mL	1.66 mL	3.32 mL
50 mM	0.07 mL	0.33 mL	0.66 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

- Turkez H, Cacciatore I, Marinelli L, Fornasari E, Aslan ME, Cadirci K, Kahraman CY, Caglar O, Tatar A, Di Biase G, Hacimuftuoglu A, Di Stefano A, Mardinoglu A. Glycyl-L-Prolyl-L-Glutamate Pseudotriptides for Treatment of Alzheimer's Disease. *Biomolecules*. 2021 Jan 19;11(1):126. doi: 10.3390/biom11010126. PMID: 33478054; PMCID: PMC7835747.
- Almengló C, Devesa P, Devesa J, Arce VM. GPE Promotes the Proliferation and Migration of Mouse Embryonic Neural Stem Cells and Their Progeny In Vitro. *Int J Mol Sci*. 2017 Jun 16;18(6):1280. doi: 10.3390/ijms18061280. PMID: 28621713; PMCID: PMC5486102.

In vivo study

TBD

7. Bioactivity

Biological target:

Gly-Pro-Glu, also known as GPE, is a neuroprotective agent and the N-terminal tripeptide of IGF-1.

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In vitro activity

Treatments with GPEs and MEM increased the number of viable cells significantly more than cells treated with $A\beta_{1-42}$ only. The neuroprotective action was associated with agent type and concentration. The addition of GPE3 at a various concentration rates tend to decrease cell damage induced by $A\beta_{1-42}$ than others (Figure 3). Similarly, results by LDH release assay were in accordance with those of MTT assay (Figure 4). A100 μ M GPE3 showed the most protective effect.

Reference: Biomolecules. 2021 Jan 19;11(1):126. <https://pubmed.ncbi.nlm.nih.gov/33478054/>

In vivo activity

TBD

Note: The information listed here was extracted from literature. MedKoo has not independently retested and confirmed the accuracy of these methods. Customer should use it just for a reference only.