# PRODUCT INFORMATION

## Gly-Pro-Glu (trifluoroacetate salt)

*Item No. 43926*

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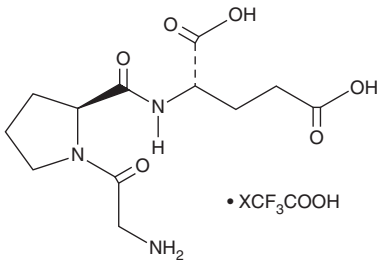
| **Formal Name:** | glycyl-L-prolyl-L-glutamic acid, trifluoroacetate salt |
| **Synonyms:** | Gly-Pro-Glu-OH, GPE, IGF-1 (1-3), Insulin-like Growth Factor 1 (1-3) |
| **Peptide Sequence:** | GPE-OH |
| **MF:** | $C_{12}H_{19}N_3O_6 \bullet XCF_3COOH$ |
| **FW:** | 301.3 |
| **Purity:** | ≥98% |
| **Supplied as:** | A low-melting solid |
| **Storage:** | -20°C |
| **Stability:** | ≥4 years |




*Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.*

### Laboratory Procedures

Gly-Pro-Glu (trifluoroacetate salt) is supplied as a low-melting solid. A stock solution may be made by dissolving the Gly-Pro-Glu (trifluoroacetate salt) in the solvent of choice, which should be purged with an inert gas. Gly-Pro-Glu (trifluoroacetate salt) is sparingly soluble (1-10 mg/ml) in ethanol and DMSO.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of Gly-Pro-Glu (trifluoroacetate salt) can be prepared by directly dissolving the low-melting solid in aqueous buffers. Gly-Pro-Glu (trifluoroacetate salt) is sparingly soluble (1-10 mg/ml) in PBS (pH 7.2). We do not recommend storing the aqueous solution for more than one day.

### Description

Gly-Pro-Glu is a peptide antagonist of the NMDA receptor ($IC_{50}$ = 170 µM).[1] It potentiates potassium-induced release of acetylcholine (ACh; Item No. 23829) in rat cortical slices and dopamine (Item Nos. 36532 | 21992) in rat striatal slices when used at concentrations of 0.1 and 10 nM. Gly-Pro-Glu (100 µM) increases the proliferation of primary human Müller glial cells.[2] It increases the proliferation of primary mouse embryonic neural stem cells and induces migration of the same cells in a wound healing assay when used at a concentration of 100 µM.[3] Gly-Pro-Glu increases locomotor activity in the open field test in aged rats when administered during the neonatal period at a dose of 30 µg/animal for 12 days.[4]

### References


1. Sara, V.R., Carlsson-Skwirut, C., Bergman, T., *et al.* Identification of Gly-Pro-Glu (GPE), the aminoterminal tripeptide of insulin-like growth factor 1 which is truncated in brain, as a novel neuroactive peptide. *Biochem. Biophys. Res. Commun.* **165(2)**, 766-771 (1989).
2. Ikeda, T., Waldbillig, R.J., and Puro, D.G. Truncation of IGF-I yields two mitogens for retinal Müller glial cells. *Brain Res.* **686(1)**, 87-92 (1995).
3. Almengló, C., Devesa, P., Devesa, J., *et al.* GPE promotes the proliferation and migration of mouse embryonic neural stem cells and their progeny in vitro. *Int. J. Mol. Sci.* **18(6)**, 1280 (2017).
4. Sara, V.R., Carlsson-Skwirut, C., Drakenberg, K., *et al.* The biological role of truncated insulin-like growth factor-1 and the tripeptide GPE in the central nervous system. *Ann. N.Y. Acad. Sci.* **692**, 183-191 (1993).





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