

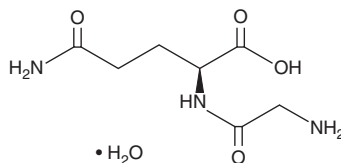
PRODUCT INFORMATION



Glycyl-L-Glutamine (hydrate)

Item No. 35058

CAS Registry No.: 172669-64-6
Synonyms: Glycylglutamine, Gly-Gln
MF: C₇H₁₃N₃O₄ • H₂O
FW: 221.2
Purity: ≥98%
Supplied as: A 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

Glycyl-L-glutamine (hydrate) is supplied as a solid. A stock solution may be made by dissolving the glycyl-L-glutamine (hydrate) in water. We do not recommend storing the aqueous solution for more than one day.

Description

Glycyl-L-glutamine is a C-terminal dipeptide fragment of β -endorphin (Item Nos. 24955 | 24153).¹ It decreases reperfusion damage and increases the time to ischemic contracture in isolated rat hearts in a model of cardiac ischemia-reperfusion injury using eight- and 36-week old rats when used at a concentration of 5 mM.² Glycyl-L-glutamine (1-100 nmol) inhibits morphine-induced respiratory depression with no effect on morphine-induced analgesia in rats.³ It also inhibits acquisition of place preference, delays the development of tolerance, and reduces withdrawal intensity in morphine-conditioned rats.⁴

References

1. Parish, D.C., Smyth, D.G., Normanton, J.R., *et al.* Glycyl glutamine, an inhibitory neuropeptide derived from β -endorphin. *Nature* **306**(5940), 267-270 (1983).
2. Almashhadany, A., Alghamdi, O.A., Van der Touw, T., *et al.* L-Glycyl-L-glutamine provides the isolated and perfused young and middle-aged rat heart protection against ischaemia-reperfusion injury. *Amino Acids* **47**(8), 1559-1565 (2015).
3. Owen, M.D., Unal, C.B., Callahan, M.F., *et al.* Glycyl-glutamine inhibits the respiratory depression, but not the antinociception, produced by morphine. *Am. J. Physiol. Regul. Integr. Comp. Physiol.* **279**(5), R1944-R1948 (2000).
4. Cavun, S., Göktalay, G., and Millington, W.R. Glycyl-glutamine, an endogenous β -endorphin-derived peptide, inhibits morphine-induced conditioned place preference, tolerance, dependence, and withdrawal. *J. Pharmacol. Exp. Ther.* **315**(2), 949-958 (2005).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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