

PRODUCT INFORMATION



Prolyl-glycyl-proline Peptide

Item No. 11188

Synonym:	PGP
Peptide Sequence:	PGP
FW:	269.30
Purity:	≥95% by HPLC
Supplied as:	A lyophilized powder
Storage:	-20°C
Stability:	≥4 years

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

Laboratory Procedures

Prolyl-glycyl-proline peptide is supplied as a lyophilized powder. A stock solution may be made by dissolving the prolyl-glycyl-proline peptide in the solvent of choice. Prolyl-glycyl-proline peptide is soluble in the organic solvent acetic acid (80%), which should be purged with an inert gas, at a concentration of approximately 50 mg/ml.

Description

Proline-glycine-proline (PGP) is a tripeptide molecule and an established biomarker for chronic obstructive pulmonary disease (COPD) and cystic fibrosis (CF).¹ PGP functions as a neutrophil chemoattractant and is derived from the proteolytic cleavage of collagen in the extracellular matrix by a multistep cascade. First, the matrix metalloproteases MMP-8 or MMP-9 cleave collagen to peptides 30-100 amino acids in length. Prolyl endopeptidase further cleaves the collagen fragments to PGP. PGP and the related peptide N-acetylated PGP (Item No. 11189) act through chemokine receptors CXCR1 and CXCR2 on neutrophil cells.² Patients with cystic fibrosis have been shown to have elevated levels of PGP peptides in sputum.¹ PGP, but not N-acetylated PGP, has been demonstrated to be a substrate for the pro-inflammatory enzyme LTA₄ hydrolase.³

References

1. O'Reilly, P., Jackson, P.L., Noerager, B., *et al.* N- α -PGP and PGP, potential biomarkers and therapeutic targets for COPD. *Respir. Res.* **10**, 1-8 (2009).
2. Weathington, N.M., van Houwelingen, A.H., Noerager, B.D., *et al.* A novel peptide CXCR ligand derived from extracellular matrix degradation during airway inflammation. *Nat. Med.* **12**(3), 317-323 (2006).
3. Snelgrove, R.J., Jackson, P.L., Hardison, M.T., *et al.* A critical role for LTA₄H in limiting chronic pulmonary neutrophilic inflammation. *Science* **330**, 90-94 (2010).

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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