

PRODUCT INFORMATION

PR 39 Peptide (porcine) (trifluoroacetate salt)

Item No. 36717

Synonyms:	Antibacterial Protein PR 39 (131-169), Proline-arginine-rich 39 peptide (131-169)	H – Arg – Arg – Arg – Pro – Arg – Pro – Pro – Tyr – Leu – Pro – Arg – Pro – Arg – Pro – Pro – Phe – Phe – Pro – Pro – Arg – Leu – Pro – Pro – Arg – Ile – Pro – Pro – Gly – Phe – Pro – Pro – Arg – Phe – Pro – Pro – Arg – Phe – Pro – NH ₂
Peptide Sequence:	RRRPRPPYLPRPRPPFFPPRLPPR IPPGFPPRFPPRFPP-NH ₂	
MF:	C ₂₂₉ H ₃₄₆ N ₇₀ O ₄₀ • XCF ₃ COOH	
FW:	4,719.7	
Purity:	≥95%	• XCF ₃ COOH
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

PR 39 peptide (porcine) (trifluoroacetate salt) is sparingly soluble (1-10 mg/ml) in aqueous solutions. To enhance aqueous solubility, dilute the organic solvent solution into aqueous buffers or isotonic saline. If performing biological experiments, ensure the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. We do not recommend storing the aqueous solution for more than one day.

Description

Proline-arginine-rich 39 peptide (PR 39 peptide) is an antibacterial peptide.¹ It is produced from antibacterial protein PR 39 by extracellular proteases and is primarily expressed by bone marrow-derived immune cells. PR 39 peptide is active against *E. coli*, *S. typhimurium*, *A. calcoaceticus*, *B. megaterium*, and *S. pyogenes* (LC₅₀s = 0.3, 1, 3, 0.3, and 2 μM, respectively).² It inhibits the human 20S proteasome (K_i = 25 nM).³ PR 39 peptide (1 μM) induces calcium-dependent chemotaxis in isolated porcine neutrophils.⁴ It increases nuclear translocation of hypoxia-inducible factor-1α (HIF-1α) in normoxic- and hypoxic human umbilical vein endothelial cells (HUVECs) when used at a concentration of 5 μM.⁵ PR 39 induces coronary angiogenesis in mice.

References

1. Gudmundsson, G.H., Magnusson, K.P., Chowdhary, B.P., *et al.* Structure of the gene for porcine peptide antibiotic PR-39, a cathelin gene family member: Comparative mapping of the locus for the human peptide antibiotic FALL-39. *Proc. Natl. Acad. Sci. USA* **92**(15), 7085-7089 (1995).
2. Agerberth, B., Lee, J.Y., Bergman, T., *et al.* Amino acid sequence of PR-39. Isolation from pig intestine of a new member of the family of proline-arginine-rich antibacterial peptides. *Eur. J. Biochem.* **202**(3), 849-854 (1991).
3. Gaczynska, M., Osmulski, P.A., Gao, Y., *et al.* Proline- and arginine-rich peptides constitute a novel class of allosteric inhibitors of proteasome activity. *Biochemistry* **42**(29), 8663-8670 (2003).
4. Huang, H.J., Ross, C.R., and Blecha, F. Chemoattractant properties of PR-39, a neutrophil antibacterial peptide. *J. Leukoc. Biol.* **61**(5), 624-629 (1997).
5. Li, J., Post, M., Volk, R., *et al.* PR39, a peptide regulator of angiogenesis. *Nat. Med.* **6**(1), 49-55 (2000).

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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CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA

PHONE: [800] 364-9897
[734] 971-3335

FAX: [734] 971-3640

CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM