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Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
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PRODUCT INFORMATION



PAR1 (1-6) (mouse, rat) (trifluoroacetate salt)

Item No. 27111

Formal Name:	L-seryl-L-phenylalanyl-L-phenylalanyl-L-leucyl-L-arginyl-L-asparagine, trifluoroacetate salt	
Synonyms:	H-Ser-Phe-Phe-Leu-Arg-Asn, PAR ₁ -AP, Proteinase-Activated Receptor 1, SFFLRN, TRAP, Thrombin Receptor Activating Peptide	
MF:	C ₃₇ H ₅₄ N ₁₀ O ₉ • XCF ₃ COOH	H—Ser—Phe—Phe—Leu—Arg—Asn—OH
FW:	782.9	• XCF ₃ COOH
Purity:	≥95%	
Supplied as:	A solid	
Storage:	-20°C	
Stability:	≥2 years	

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

Laboratory Procedures

PAR1 (1-6) (mouse, rat) (trifluoroacetate salt) is supplied as a solid. A stock solution may be made by dissolving the PAR1 (1-6) (mouse, rat) (trifluoroacetate salt) in water. The solubility of PAR1 (1-6) (mouse, rat) (trifluoroacetate salt) in water is approximately 1 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

PAR1 (1-6) is a hexapeptide that corresponds to amino acid residues 1-6 of the amino terminal tethered ligand sequence of mouse and rat proteinase-activated receptor 1 (PAR1), residues 42-47 of the full-length mouse sequence, and residues 46-51 of the full-length rat sequence.^{1,2} PAR1 is a high-affinity thrombin receptor that induces platelet activation and deposition into thrombi as well as smooth muscle mitogenesis.³ Unlike thrombin, PAR1 (1-6) acts as an agonist of PAR1 in smooth muscle cells but is inactive in rodent platelets.⁴ It increases mitogenesis and the expression of the IGF-1 receptor (IGF-1R) by 47% in vascular smooth muscle cells (VSMCs), an effect that is inhibited by the thrombin inhibitor hirudin and by the protein tyrosine kinase inhibitor genistein (Item No. 10005167).¹ PAR1 (1-6) increases histamine and β-hexosaminidase release from rat peritoneal mast cells in a concentration-dependent manner, with the maximum release at a concentration of 50 μM.² It also mimics the effect of thrombin, increasing swelling-activated efflux of [³H]glutamate induced by hypoosmotic medium in astrocytes *in vitro* when used at concentrations ranging from 5 to 10 μM.⁵

References

1. Du, J., Brink, M., Peng, T., *et al.* Thrombin regulates insulin-like growth factor-1 receptor transcription in vascular smooth muscle: Characterization of the signaling pathway. *Circ. Res.* **88(10)**, 1044-1052 (2001).
2. Dugina, T.N., Kiseleva, E.V., Glusa, E., *et al.* Activation of mast cells induced by agonists of proteinase-activated receptors under normal conditions and during acute inflammation in rats. *Eur. J. Pharmacol.* **471(2)**, 141-147 (2003).
3. Sidhu, T.S., French, S.L., and Hamilton, J.R. Differential signaling by protease-activated receptors: Implications for therapeutic targeting. *Int. J. Mol. Sci.* **15(4)**, 6169-6183 (2014).
4. Derian, C.K., Santulli, R.J., Tomko, K.A., *et al.* Species differences in platelet responses to thrombin and SFFLRN. Receptor-mediated calcium mobilization and aggregation, and regulation by protein kinases. *Thromb. Res.* **78(6)**, 505-519 (1995).
5. Ramos-Mandujano, G., Vázquez-Juárez, E., Hernández-Benítez, R., *et al.* Thrombin potently enhances swelling-sensitive glutamate efflux from cultured astrocytes. *Glia* **55(9)**, 917-925 (2007).

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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