

PRODUCT INFORMATION



P4pal10 (trifluoroacetate salt)

Item No. 36913

Formal Name: N-(1-oxohexadecyl)-L-serylglycyl-L-arginyl-L-arginyl-L-tyrosylglycyl-L-histidyl-L-alanyl-L-leucyl-L-argininamide, trifluoroacetate salt

Synonyms: Palmitoyl-SGRRYGHALR-amide, Palmitoyl-SGRRYGHALR-NH₂

MF: C₆₅H₁₁₂N₂₂O₁₃ • XCF₃COOH

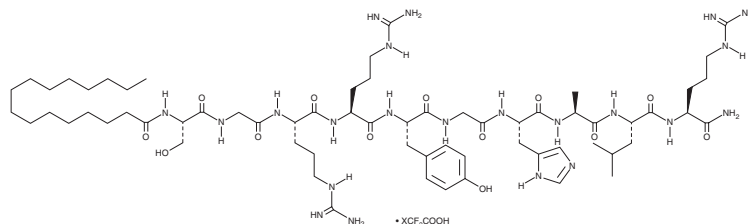
FW: 1,409.7

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

P4pal10 (trifluoroacetate salt) is supplied as a solid. Aqueous solutions of P4pal10 (trifluoroacetate salt) can be prepared by directly dissolving the solid in aqueous buffers. The solubility of P4pal10 (trifluoroacetate salt) in PBS (pH 7.2) is approximately 1 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

P4pal10 is a peptidic antagonist of proteinase-activated receptor 4 (PAR4) and formyl peptide receptor 2 (FPR2), as well as an agonist of free fatty acid receptor 2 (FFAR2/GPR43).^{1,2} It is composed of a peptide that corresponds to the third intracellular loop of human PAR4 that is conjugated to palmitic acid (Item No. 10006627).¹ P4pal10 selectively inhibits the aggregation of isolated human platelets induced by the PAR4 peptide agonist AYPGKF-NH₂ (Item No. 24258; IC₅₀ = 0.5-1 μM) over the PAR1 peptide agonist SFLRN-NH₂ (Item No. 36881), the TP receptor agonist U-46619 (Item No. 16450), the platelet glycoprotein Ib (GPIb), GPIX, and GPV agonist ristocetin, ADP (Item No. 21121), or collagen at 5 μM. It inhibits increases in intracellular calcium induced by the FPR1 and FPR2 agonist WKYMVm but not by the FPR1 agonist fMLF in isolated human neutrophils and induces superoxide production in TNF-α primed isolated human neutrophils stimulated with the FFAR2 allosteric modulator Cmp58.² P4pal10 (1, 3, or 10 μg/kg) reduces myocardial infarct size in a rat model of coronary artery ligation-induced ischemia-reperfusion injury.³ It increases the paw withdrawal threshold in rat models of osteoarthritis induced by monoiodoacetate injection into the knee joint or medial meniscal transection.⁴

References

1. Covic, L., Misra, M., Badar, J., *et al.* Peptidic-based intervention of thrombin-receptor signaling and systemic platelet activation. *Nat. Med.* **8**(10), 1161-1165 (2002).
2. Holdfeldt, A., Lind, S., Hesse, C., *et al.* The PAR4-derived peptidic P4Pal10 lacks effect on neutrophil GPCRs that couple to Gαq for signaling but distinctly modulates function of the Gαi-coupled FPR2 and FFAR2. *Biochem Pharmacol.* **114**143, (2020).
3. Strande, J.L., Hsu, A., Su, J., *et al.* Inhibiting protease-activated receptor 4 limits myocardial ischemia/reperfusion injury in rat hearts by unmasking adenosine signaling. *J. Pharmacol. Exp. Ther.* **324**(3), 1045-1054 (2008).
4. O'Brien, M.S. and McDougall, J.J. Targeting proteinase activated receptor-4 reduces mechanonociception during the acute inflammatory phase but not the chronic neuropathic phase of osteoarthritis in rats. *Front. Pharmacol.* **12**, 756632 (2021).

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.

WARRANTY AND LIMITATION OF REMEDY

Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

Copyright Cayman Chemical Company, 12/21/2022

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