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MMK1 Protein

A Potent and Selective Agonist of FPR2 G-Protein Coupled Receptors

Catalog # PG10017

Specification

MMK1 Protein - Product Information

MMK1 Protein - Additional Information

Storage
-20°C

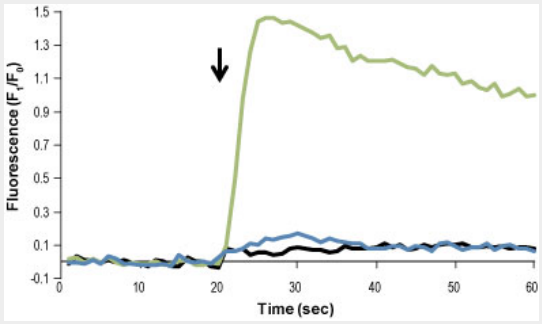
Precautions
MMK1 Protein is for research use only and not for use in diagnostic or therapeutic procedures.

MMK1 Protein - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

MMK1 Protein - Images



MMK1 - Abgent MMK1 activates Ca2+ transients in HL-60 cells.Cells were loaded with Fluo-3 AM. Changes in intracellular Ca2+ were detected via changes in Fluo-3 emission following application (indicated by arrow) of 1µM MMK1(#PG10017), (green) compared to control (black, saline perfusion) and to the effect achieved after 30 minutes incubation with the specific FPR2 antagonist WRW4, (5 µM, blue).

MMK1 Protein - Background

Chemotactic factors from both Gram-positive and Gram-negative bacteria are short peptides with N-formyl methionine at the N-terminus (extensively reviewed in reference 1). These peptides are released from bacteria during infection and activate formyl peptide receptor (FPR), a member of G-protein coupled receptors (GPCRs). In human, the FPR family consists mainly of three receptors, FPR1, FPR2/ALX (formerly FPRL1), and FPR3 (formerly FPRL2) which all couple to the Gi subtype of G-proteins and ultimately lead to the activation of phospholipase C and intracellular Ca2+increase1,2.MMK1 is a selective and potent agonist of the Formylpeptide receptor FPR23, which was originally derived from a random peptide library and was identified by a novel autocrine selection method in yeasts engineered to express human FPR24.FPR2 is expressed in the promyelocytic leukemia cell line HL-60 as well as in the chronic myelogenous leukemia cell line K5625. In human neutrophils, 1 µM MMK1 induces Ca2+ influx which is blocked by the specific FPR2 antagonist WRW46.Resveratrol, a constituent of grape seeds, induces Ca2+ influx in human monocytes which is blocked by10 µM MMK1, demonstrating that the inhibition of chemoattractant receptors contribute to the anti-inflammatory properties of resveratrol7.

MMK1 Protein - References

1 . Ye, R.D. et al.(2009)Pharmacol. Rev.61, 119.2 . Le, Y. et al.(2002)Trends Immunol. 23, 541.3 . Hu, J.Y. et al. (2001)J. Leukoc. Biol. 70,155.4 . Klein, C. et al.(1998)Nat. Biotechnol.16,1334.5 . See Applications for Anti-Human FPR2/ALX (extracellular).6 . Bae, Y.S. et al. (2004)J. Immunol. 173,607.7 . Tao, H. et al. (2004)Cell. Mol. Immunol. 1,50.