

## WRW4 Protein

A Potent Antagonist of FPR2 and FPR3 G-Protein Coupled Receptors

Catalog # PG10022

### Specification

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#### WRW4 Protein - Product Information

#### WRW4 Protein - Additional Information

##### Storage

-20°C

##### Precautions

WRW4 Protein is for research use only and not for use in diagnostic or therapeutic procedures.

#### WRW4 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 Cytometry](#)
- [Cell Culture](#)

#### WRW4 Protein - Images

#### WRW4 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 Ca<sup>2+</sup> increase<sup>1,2</sup>. WRW4 is a selective and potent antagonist of the Formylpeptide receptors (FPR2 and FPR3)<sup>3,4</sup>, which was identified by screening hexapeptide libraries that inhibit the binding of the FPR2 agonist WKYMVm to its specific receptor, in RBL-2H3 cells<sup>3</sup>. In human umbilical vein endothelial cells, WRW4 (10 nM), inhibited CCL2 production, which was stimulated by serum amyloid A<sup>5</sup>. FPR2 is expressed in the promyelocytic leukemia cell line HL-60 as well as in the chronic myelogenous leukemia cell line K5626. In human neutrophils, 10 μM WRW4 blocked the specific FPR2 agonist (MMK1) induced Ca<sup>2+</sup> influx. In addition, at the same concentration WRW4 blocked Ca<sup>2+</sup> influxes, generated by stimulation with the Alzheimer's disease Amiloide β42 peptide, by lipoxin A4 and by fMLF3.

#### WRW4 Protein - References

1 . Ye, R.D. et al.(2009)Pharmacol. Rev.61,119.2 . Le, Y. et al.(2002)Trends Immunol. 23,541.3 .  
Bae, Y.S. et al. (2004)J. Immunol. 173,607.4 . Shin, E.H. et al. (2006)Biochem. Biophys. Res.  
Commun. 341,1317.5 . Lee, H.Y. et al. (2010)Exp. Mol. Med. 42,302.6 . See Applications  
for Anti-Human FPR2/ALX (extracellular).