

## DESCRIPTION

<b>Species Reactivity</b>	Human
<b>Specificity</b>	Detects human CXCL4/PF4 in ELISAs and Western blots. In sandwich immunoassays, less than 0.05% cross-reactivity with recombinant mouse PF4, recombinant human (rh) GRO $\alpha$ , and rhGRO $\beta$ is observed.
<b>Source</b>	Polyclonal Goat IgG
<b>Purification</b>	Antigen Affinity-purified
<b>Immunogen</b>	<i>E. coli</i> -derived recombinant human CXCL4/PF4 (R&D Systems, Catalog # 795-P4) Glu32-Ser101 Accession # P02776
<b>Formulation</b>	Lyophilized from a 0.2 $\mu$ m filtered solution in PBS with BSA as a carrier protein. See Certificate of Analysis for details.

## APPLICATIONS

**Please Note:** Optimal dilutions should be determined by each laboratory for each application. *General Protocols* are available in the *Technical Information* section on our website.

	<b>Recommended Concentration</b>	<b>Sample</b>
<b>Western Blot</b>	0.1 $\mu$ g/mL	Recombinant Human CXCL4/PF4 (Catalog # 795-P4)
<b>Human CXCL4/PF4 Sandwich Immunoassay</b>		<b>Reagent</b>
<b>ELISA Capture</b>	2-8 $\mu$ g/mL	Human CXCL4/PF4 Antibody (Catalog # MAB7951)
<b>ELISA Detection</b>	0.1-0.4 $\mu$ g/mL	Human CXCL4/PF4 Biotinylated Antibody (Catalog # BAF795)
<b>Standard</b>		Recombinant Human CXCL4/PF4 (Catalog # 795-P4)

## PREPARATION AND STORAGE

<b>Reconstitution</b>	Reconstitute at 0.2 mg/mL in sterile PBS.
<b>Shipping</b>	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
<b>Stability &amp; Storage</b>	<p><b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b></p> <ul style="list-style-type: none"> <li>• 12 months from date of receipt, -20 to -70 °C as supplied.</li> <li>• 1 month, 2 to 8 °C under sterile conditions after reconstitution.</li> <li>• 6 months, -20 to -70 °C under sterile conditions after reconstitution.</li> </ul>

## BACKGROUND

CXCL4, also known as Platelet Factor 4, is a member of the CXC chemokine family, CXCL4. Human CXCL4 is a 101 amino acid (aa) protein with a 32 aa signal sequence and a 70 aa mature protein. CXCL4 has homology with IL-8 and  $\beta$ -thromboglobulin. Human and mouse CXCL4 share a 64% identity. CXCL4 contains several heparin-binding sites at the C-terminal region. The active protein consists of a tetramer composed of individual CXCL4 subunits. Megakaryocytes synthesize CXCL4 and store it as tetramers in  $\alpha$ -granules. The CXCL4 tetramers are secreted by activated platelets and can be measured at micromolar levels in serum. In contrast to other CXC chemokines, CXCL4 lacks chemotactic activity for polymorphonuclear granulocytes. CXCL4 does not contain an ELR motif. However, many other functions have been observed for CXCL4. CXCL4 is involved in monocyte survival and differentiation into macrophages, and it has anti-angiogenic activity. CXCL4 has been demonstrated to inhibit the binding of FGF-2 to high-affinity receptors and its subsequent internalization. Cell surface neutrophil chondroitin sulfate chains serve as CXCL4 binding sites; affinity is controlled by the degree of sulfation of these chains.

## References:

1. Poncz, M. *et al.* (1987) *Blood* **69**:219.
2. Scheuerer, B. *et al.* (2000) *Blood* **95**:1158.
3. Perollet, C. *et al.* (1998) *Blood* **91**:3289.
4. Petersen, F. *et al.* (1998) *J. Immunol.* **161**:4347.
5. Petersen, F. *et al.* (1999) *J. Biol. Chem.* **274**:12376.
6. Watanabe, O. *et al.* (1999) *J. Hum. Genet.* **44**:173.