

#### DESCRIPTION

<b>Species Reactivity</b>	Human
<b>Specificity</b>	Detects human CXCL4/PF4 in direct ELISAs and Western blots. In Western blots, no cross-reactivity with recombinant mouse (rm) CXCL6, recombinant human (rh) CXCL6, rhCXCL7, rmCXCL13 or rhCCL21 is observed.
<b>Source</b>	Monoclonal Mouse IgG <sub>2B</sub> Clone # 170138
<b>Purification</b>	Protein A or G purified from hybridoma culture supernatant
<b>Immunogen</b>	<i>E. coli</i> -derived recombinant human CXCL4/PF4 Glu32-Ser101 Accession # P02776.2
<b>Conjugate</b>	Alexa Fluor 594 Excitation Wavelength: 590 nm Emission Wavelength: 617 nm
<b>Formulation</b>	Supplied 0.2 mg/mL in a saline solution containing BSA and Sodium Azide. See Certificate of Analysis for details.  *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.

#### 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>Intracellular Staining by Flow Cytometry</b>	0.25-1 µg/10 <sup>6</sup> cells	Human immature dendritic cells fixed with paraformaldehyde and permeabilized with saponin

#### PREPARATION AND STORAGE

**Shipping** The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.

**Stability & Storage** **Protect from light. Do not freeze.**

- 12 months from date of receipt, 2 to 8 °C as supplied.

#### BACKGROUND

CXCL4, also known as Platelet Factor 4 (PF4), is an 8 kDa CXC chemokine that is stored in platelet α-granules as a homotetramer and secreted abundantly during platelet activation. Human CXCL4 is a 101 amino acid (aa) protein with a 32 aa signal sequence and a 70 aa mature protein that includes granule targeting and heparin-binding sequences. CXCL4 has homology with IL-8 and β-thromboglobulin and can form heteromultimers with IL-8. Mature human and mouse CXCL4 share 76% aa identity. The active protein consists of a tetramer composed of individual CXCL4 subunits. Megakaryocytes synthesize CXCL4 and store it as tetramers in α-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, has anti-angiogenic activity and promotes granule Protein C activation. 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.

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