Human CXCL4/PF4 Antibody

Monoclonal Mouse IgG_{2B} Clone # 170138

Catalog Number: MAB7952

DESCRIPTION

Species Reactivity	Human
Specificity	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.
Source	Monoclonal Mouse IgG_{2B} Clone # 170138
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	*E. coli*-derived recombinant human CXCL4/PF4 Glu32-Ser101 Accession # P02776.2
Formulation	Lyophilized from a 0.2 μm filtered solution in PBS with Trehalose.

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.*

	Recommended Concentration	Sample
Western Blot	0.5 µg/mL	See Below
Intracellular Staining by Flow Cytometry	0.25 µg/10^6 cells	PBMC monocytes and Platelets fixed with Flow Cytometry Fixation Buffer (Catalog # FC004) and permeabilized with Flow Cytometry Permeabilization/Wash Buffer I (Catalog # FC005)
CyTOF-ready	Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation.	

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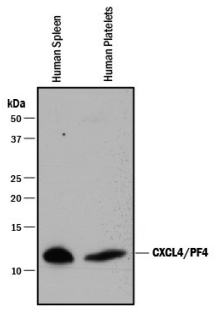
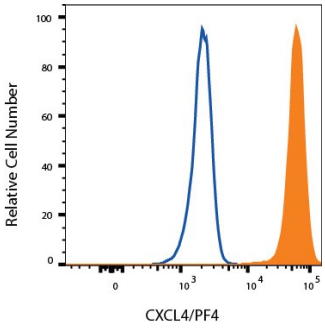
DATA

Western Blot



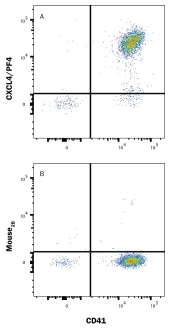
Detection of Human CXCL4/PF4 by Western Blot. Western blot shows lysates of human spleen tissue and human platelets. PVDF membrane was probed with 0.5 µg/mL of Mouse Anti-Human CXCL4/PF4 Monoclonal Antibody (Catalog # MAB7952) followed by HRP-conjugated Anti-Mouse IgG Secondary Antibody (Catalog # HAF018). A specific band was detected for CXCL4/PF4 at approximately 11 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.

Intracellular Staining by Flow Cytometry



Detection of CXCL4/PF4 in PBMC monocytes by Flow Cytometry. PBMC monocytes were stained with Mouse Anti-Human CXCL4/PF4 Monoclonal Antibody (Catalog # MAB7952, filled histogram) or isotype control antibody (Catalog # MAB0041, open histogram), followed by Allophycocyanin-conjugated Anti-Mouse IgG Secondary Antibody (Catalog # F0101B). To facilitate intracellular staining, cells were fixed with Flow Cytometry Fixation Buffer (Catalog # FC004) and permeabilized with Flow Cytometry Permeabilization/Wash Buffer I (Catalog # FC005). View our protocol for Staining Intracellular Molecules.

Intracellular Staining by Flow Cytometry



Detection of CXCL4/PF4 in Platelets by Flow Cytometry. Platelets were stained with Mouse Anti-Human Integrin α2b/CD41 APC-conjugated Monoclonal Antibody (Catalog # FAB7616A) and either (A) Mouse Anti-Human CXCL4/PF4 Monoclonal Antibody (Catalog # MAB7952) or (B) Mouse IgG_{2B} Flow Cytometry Isotype Control (Catalog # MAB0041) followed by Phycoerythrin-conjugated Anti-Mouse IgG Secondary Antibody (Catalog # F0102B). To facilitate intracellular staining, cells were fixed with Flow Cytometry Fixation Buffer (Catalog # FC004) and permeabilized with Flow Cytometry Permeabilization/Wash Buffer I (Catalog # FC005). View our protocol for Staining Intracellular Molecules.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** • 12 months from date of receipt, -20 to -70 °C as supplied. • 1 month, 2 to 8 °C under sterile conditions after reconstitution. • 6 months, -20 to -70 °C under sterile conditions after reconstitution.

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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 survivial 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:

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3. Perollet, C. *et al.* (1998) Blood **91**:3289.
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