Human CX3CL1/Fractalkine Chemokine Domain Antibody

Antigen Affinity-purified Polyclonal Goat IgG
Catalog Number: AF365

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human CX3CL1/Fractalkine in direct ELISAs and Western blots. In direct ELISAs, approximately 15% cross-reactivity with recombinant mouse CX3CL1 and recombinant rat CX3CL1 is observed and less than 10% cross-reactivity with recombinant human (rh) MCP-2 and rhMCP-4 is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	*E. coli*-derived recombinant human CX3CL1/Fractalkine Gln25-Gly100 Accession # Q6I9S9
Endotoxin Level	<0.10 EU per 1 µg of the antibody by the LAL method.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 µm filtered solution in PBS.

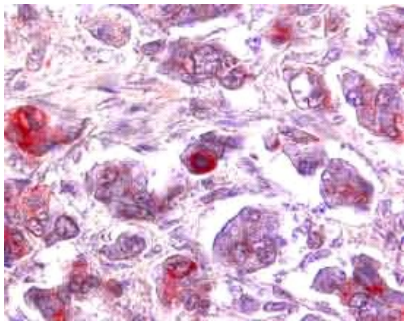
APPLICATIONS

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	0.1 µg/mL	Recombinant Human CX3CL1/Fractalkine Chemokine Domain (Catalog # 362-CX)
Immunohistochemistry	5-15 µg/mL	See Below
Neutralization	Measured by its ability to neutralize CX3CL1/Fractalkine-induced chemotaxis in the BaF3 mouse pro-B cell line transfected with mouse CX3CR1. The Neutralization Dose (ND_{50}) is typically 0.75-4.5 µg/mL in the presence of 100 ng/mL Recombinant Human CX3CL1/Fractalkine.	

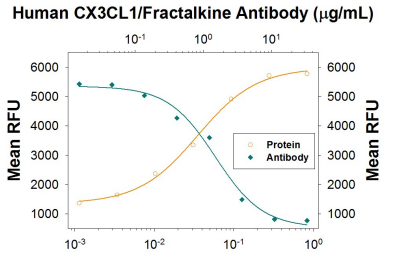
DATA

Immunohistochemistry



CX3CL1/Fractalkine in Human Breast Cancer Tissue. CX3CL1/Fractalkine was detected in immersion fixed paraffin-embedded sections of human breast cancer tissue using 15 µg/mL Goat Anti-Human CX3CL1/Fractalkine Chemokine Domain Antigen Affinity-purified Polyclonal Antibody (Catalog # AF365) overnight at 4 °C. Tissue was stained (red) and counterstained with hematoxylin (blue). View our protocol for Chromogenic IHC Staining of Paraffin-embedded Tissue Sections.

Neutralization



Chemotaxis Induced by CX3CL1/Fractalkine and Neutralization by Human CX3CL1/Fractalkine Antibody. Recombinant Human CX3CL1/Fractalkine (Catalog # 365-FR) chemoattracts the BaF3 mouse pro-B cell line transfected with mouse CX3CR1 in a dose-dependent manner (orange line). The amount of cells that migrated through to the lower chemotaxis chamber was measured by Resazurin (Catalog # AR002). Chemotaxis elicited by Recombinant Human CX3CL1/Fractalkine (100 ng/mL) is neutralized (green line) by increasing concentrations of Goat Anti-Human CX3CL1/Fractalkine Chemokine Domain Antigen Affinity-purified Polyclonal Antibody (Catalog # AF365). The ND_{50} is typically 0.75-4.5 µg/mL.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.2 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
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

CX3CL1, also named neurotactin, is a novel chemokine identified through bioinformatics. CX3CL1 has a unique C-X_3-C cysteine motif near the amino-terminus and is the first member of a fourth branch of the chemokine superfamily. Unlike other known chemokines, CX3CL1 is a type 1 membrane protein containing a chemokine domain tethered on a long mucin-like stalk. Human CX3CL1 cDNA encodes a 397 amino acid (aa) residue membrane protein with a 24 aa residue predicted signal peptide, a 76 aa residue chemokine domain, a 241 aa residue stalk region containing 17 degenerate mucin-like repeats, a 19 aa residue transmembrane segment and a 37 aa residue cytoplasmic domain. The extracellular domain of human CX3CL1 can be released, possibly by proteolysis at the dibasic cleavage site proximal to the membrane, to generate soluble CX3CL1. CX3CL1 mRNA has been detected in various tissues including the brain and heart. The expression of CX3CL1 was also reported to be up-regulated in endothelial cells and microglia by inflammatory signals. Membrane-bound CX3CL1 has been shown to promote adhesion of leukocytes. The soluble chemokine domain of human CX3CL1 was reported to be chemotactic for T cells and monocytes while the soluble chemokine domain of mouse CX3CL1 was reported to chemoattract neutrophils and T-lymphocytes but not monocytes. The gene for human CX3CL1 has been mapped to chromosome 16q.

References:

1. Pan, Y. *et al.* (1997) Nature **387**:611.
2. Bazan, J.F. *et al.* (1997) Nature **385**:640.
3. Mackay, C.R. (1997) Current Biology **7**:R384.

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