

DESCRIPTION

Species Reactivity	Rat
Specificity	Detects rat CX3CL1/Fractalkine Chemokine in direct ELISAs and Western blots. In ELISAs, approximately 50% cross-reactivity with recombinant mouse (rm) CX3CL1 is observed, 10% cross-reactivity with rmCCL11 is observed, and no cross-reactivity with recombinant human (rh) CX3CL1 or rhCCL11 is observed.
Source	Monoclonal Mouse IgG ₁ Clone # 96834
Purification	Protein A or G purified from ascites
Immunogen	<i>E. coli</i> -derived recombinant rat CX3CL1/Fractalkine Chemokine Domain Gln25-Gly100 Accession # O55145
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 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	1 µg/mL	Recombinant Rat CX3CL1/Fractalkine (Catalog # 536-FR)

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. *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. <ul style="list-style-type: none"> • 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.

BACKGROUND

CX3CL1, also called fractalkine or neurotactin, is a member of the delta chemokine subfamily that contains a novel C-X₃-C motif. Unlike other known chemokines, CX3CL1 is a type 1 membrane protein containing a chemokine domain tethered on a long mucin-like stalk. Rat CX3CL1 cDNA encodes a 393 amino acid (aa) residue precursor protein with two alternative (21 aa or 24 aa residue) putative signal peptides, a 76 aa residue globular chemokine domain, a 238 aa residue stalk region rich in Gly, Pro, Ser and Thr and containing degenerate mucin-like repeats, a 19 aa residue transmembrane segment and a 36 aa residue cytoplasmic domain. The extracellular domain of CX3CL1 can potentially be released as a soluble protein by proteolysis at the conserved dibasic motif proximal to the transmembrane region. With the exception of the stalk region, rat CX3CL1 shares a high degree of amino sequence homology (83% sequence identity) with human and mouse CX3CL1. CX3CL1 is expressed in various tissues including heart, brain, lung, kidney, skeletal muscle, and testis. In rat brain, CX3CL1 expression was found to be localized principally to neurons. The expression of CX3CL1 was also reported to be up-regulated on activated endothelial cells. 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. CX3CR1, previously named V28 or chemokine beta receptor-like 1, has been found to be a specific receptor for CX3CL1. In addition, US28, a 7TM receptor encoded by human cytomegalovirus that binds multiple CC chemokines, has also been shown to bind fractalkine with high-affinity.

References:

1. Kledal, T.N. *et al.* (1998) FEBS Lett. **441**:209.
2. Combadiere, C. *et al.* (1998) J. Biol. Chem. **273**:23799.
3. Harrison, J.L. *et al.* (1998) Proc. Natl. Acad. Sci. USA **95**:10896.
4. Rossi, D.L. *et al.* (1998) Genomics **47**:163.