Biotinylated Recombinant Human CX3CL1/Fractalkine His-tag Avi-tag

Catalog Number: AVI365

DESCRIPTION

Source

Human embryonic kidney cell, HEK293-derived human CX3CL1/Fractalkine protein

Human CX3CL1/Fractalkine (Gln25-Thr338) Accession # P78423.1	HHHHHH	Avi-tag

N-terminus C-terminus

N-terminal Sequence Analysis	Gln25, inferred from enzymatic pyroglutamate treatment revealing His26
Structure / Form	Biotinylated via Avi-tag
Predicted Molecular Mass	36 kDa

SPECIFICATIONS

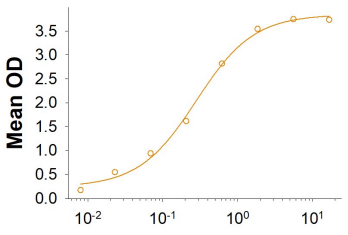
SDS-PAGE	88-103 kDa, under reducing conditions
Activity	Measured by its ability to chemoattract BaF3 mouse pro-B cells transfected with mouse CX3CR1. The ED_{50} for this effect is 20-100 ng/mL. Measured by its binding ability in a functional ELISA. When Recombinant Human CX3CL1/Fractalkine monoclonal antibody (Catalog # MAB3651) is immobilized at 1 µg/mL (100 µL/well), Biotinylated Recombinant Human CX3CL1/Fractalkine His-tag Avi-tag binds with ED_{50} of 0.15-0.9 µg/mL.
Endotoxin Level	<1.0 EU per 1 µg of the protein by the LAL method.
Purity	>95%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 500 µg/mL in 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. • 3 months, -20 to -70 °C under sterile conditions after reconstitution.

DATA

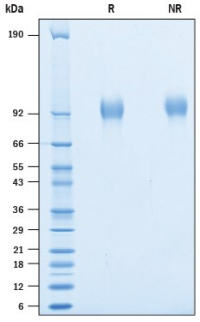
Binding Activity



Biotinylated Recombinant Human CXCL1/Fractalkine His Avi-tag (µg/mL)

When Human CX3CL1/Fractalkine MAb Catalog # MAB3651) is immobilized at 1 µg/mL (100 µL/well), Biotinylated Recombinant Human CX3CL1/Fractalkine His-tag Avi-tag binds with an ED_{50} of 0.15-0.9 µg/mL.

SDS-PAGE



2 µg/lane of Biotinylated Recombinant Human CX3CL1/Fractalkine His-tag Avi-tag Protein (Catalog # AVI365) was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing bands at 88-103;kDa.

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Global bio-techne.com info@bio-techne.com techsupport@bio-techne.com TEL +1 612 379 2956
USA TEL 800 343 7475 Canada TEL 855 668 8722 China TEL +86 (21) 52380373
Europe | Middle East | Africa TEL +44 (0)1235 529449

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BACKGROUND

Fractalkine, also known as CX3C motif chemokine 1, CX3CL1, neurotactin and small-inducible cytokine D1, is the only member of the CX3C subfamily of the chemokine superfamily (1). Mature human Fractalkine consists of an N-terminal chemokine domain with a CX3C motif and a mucin-like stalk region in the extracellular domain (ECD), a transmembrane segment and a short cytoplasmic domain (1, 2). The soluble form of Fractalkine is generated via ADAM10 and ADAM17 cleavage (1). Within the ECD, human Fractalkine shares 59% amino acid sequence identity with both mouse and rat Fractalkine. Fractalkine exists as both a membrane-bound adhesion molecule and as a soluble proinflammatory chemoattractant and anti-inflammatory neuroprotective agent (1-3). The expression of CX3CL1 is higher in spinal metastases from kidney cancer (4). 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 (5). Most of the functions of CX3CL1 are exerted through the CX#CL1/CX3CR1 axis which has the therapeutic prospect (5, 6). Our Avi-tag Biotinylated Recombinant Fractalkine features biotinylation at a single site contained within the Avi-tag, a unique 15 amino acid peptide. Protein orientation will be uniform when bound to streptavidin-coated surface due to the precise control of biotinylation and the rest of the protein is unchanged so there is no interference in the protein's bioactivity.

References:

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2. Desforges, N. *et al.* (2012) Int. J. Alzheimers Dis. **2012**:345472.
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4. Liu, W. *et al.* (2016) Arch Immunol. Ther. Exp. (Warsz) **64**:371.
5. Zlotnik, A. Yoshie, O. (2012) Immunity **36**:705.
6. Quan, Z. *et al.* (2017) Current Gene Therapy **17**:442.

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