Biotinylated Recombinant Human IL-17RA/IL-17R Fc Chimera Avi-tag

Catalog Number: AVI177

DESCRIPTION

Source

Human embryonic kidney cell, HEK293-derived human IL-17RA/IL-17R protein

Human IL-17RA/IL-17R (Leu33-Trp320) Accession # Q96F46.2	IEGRMD	Human IgG_1 (Pro100-Lys330)	Avi-tag

N-terminus C-terminus

N-terminal Sequence Analysis	Leu33
Structure / Form	Disulfide-linked homodimer Biotinylated via Avi-tag
Predicted Molecular Mass	62 kDa

SPECIFICATIONS

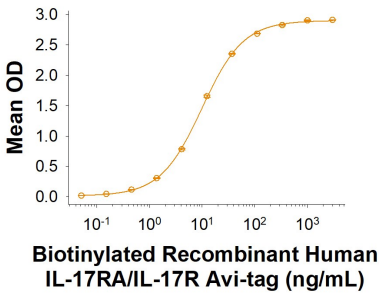
SDS-PAGE	90-100 kDa, under reducing conditions.
Activity	Measured by its binding ability in a functional ELISA. When Recombinant human IL-17A (Catalog # 7955-IL) is immobilized at 0.500 µg/mL, 100 µL/well, Biotinylated Recombinant Human IL-17RA/IL-17R Fc Chimera Avi-tag (Catalog # AVI177) binds with an ED_{50} of 5.00-30.0 ng/mL.
Endotoxin Level	<0.10 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 250 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.

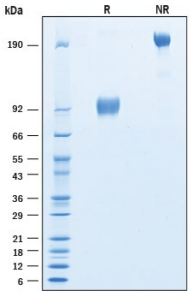
DATA

Binding Activity



Biotinylated Recombinant Human IL-17RA/IL-17R Fc Chimera Avi-tag Protein Binding Activity. Measured by its binding ability in a functional ELISA. When Recombinant human IL-17A (Catalog # 7955-IL) is immobilized at 0.500 µg/mL, 100 µL/well, Biotinylated Recombinant Human IL-17RA/IL-17R Fc Chimera Avi-tag Protein (Catalog # AVI177) binds with an ED_{50} of 5.00-30.0 ng/mL.

SDS-PAGE



Biotinylated Recombinant Human IL-17RA/IL-17R Fc Chimera Avi-tag Protein SDS-PAGE. 2 µg/lane of Biotinylated Recombinant Human IL-17RA/IL-17R Fc Chimera Avi-tag Protein (Catalog # AVI177) was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing bands at 90-100 kDa and 180-200 kDa, respectively.

bio-techne®
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

Biotinylated Recombinant Human IL-17RA/IL-17R Fc Chimera Avi-tag

Catalog Number: AVI177

BACKGROUND

IL-17 R, also known as IL-17 RA, is a 120 kDa type I transmembrane glycoprotein protein that plays a central role in inflammatory responses (1-3). Mature human IL-17 R consists of a 288 amino acid (aa) extracellular domain, a 21 aa transmembrane segment, and a 525 aa cytoplasmic domain (4). The cytoplasmic domain contains a region homologous to the TIR domain of the TLR/IL-1 R family (5). Human IL-17 R shares 72% aa sequence identity with mouse and rat IL-17 R. Within the extracellular domain, it shares 18%-25**%** sequence identity with human IL-17 RB, C, D, and E. While the expression of IL-17 is restricted to activated T cells, IL-17 R exhibits a broad tissue distribution (4). Even in the absence of ligand, IL-17 R exists on the cell surface as a multimer (6). IL-17 R can bind IL-17 but must associate with IL-17 RC to transduce signals (7, 8). Interestingly, human IL-17 R does not appear to form productive complexes with mouse IL-17 RC (8). The IL-17 R can also signal in response to IL-17F (9). IL-17 R ligation promotes T cell activation and the production of IL-6, G-CSF, SCF, and multiple pro-inflammatory chemokines (4, 7, 9, 10). IL-17A and IL-17F synergize with TNF-α in the induction of CXCL1, G-CSF, and IL-6 (9, 11). This effect requires the presence of both TNF RI and TNF RII (9). IL-17 interactions with IL-17 R also inhibit the TNF-α induced up-regulation of fibroblast CCL5 and VCAM-1 (11). CCL5 and VCAM-1 induced effects are differentially sensitive to blockade with IL-17 R specific antibodies, suggesting that IL-17 R triggers divergent intracellular signals (11). In vivo, IL-17 R activity is important for increased generation of neutrophils and their recruitment to sites of inflammation (10, 12, 13). IL-17 R is required for host defense against microbial infection and for the progression of arthritis from inflammation to destructive joint erosion (10, 13). Our Avi-tag Biotinylated human IL-17R Fc chimera 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:

1. Iwakura, Y. and H. Ishigame (2006) J. Clin. Invest. **116**:1218.
2. Moseley, T.A. *et al.* (2003) Cytokine Growth Factor Rev. **14**:155.
3. Kawaguchi, M. *et al.* (2004) J. Allergy Clin. Immunol. **114**:1265.
4. Yao, Z. *et al.* (1995) Immunity **3**:811.
5. Novatchkova, M. *et al.* (2003) Trends Biochem. Sci. **28**:226.
6. Kramer, J.M. *et al.* (2006) J. Immunol. **176**:711.
7. Hymowitz, S.G. *et al.* (2001) EMBO J. **20**:5332.
8. Toy, D. *et al.* (2006) J. Immunol. **177**:36.
9. McAllister, F. *et al.* (2005) J. Immunol. **175**:404.
10. Ye, P. *et al.* (2001) J. Exp. Med. **194**:519.
11. Schnyder, B. *et al.* (2005) Cytokine **31**:191.
12. Tan, W. *et al.* (2006) J. Immunol. **176**:6186.
13. Lubberts, E. *et al.* (2005) J. Immunol. **175**:3360.

bio-techne®
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