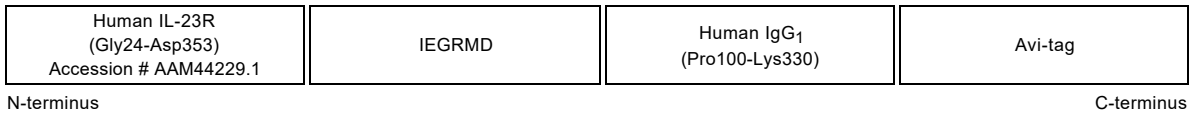
Biotinylated Recombinant Human IL-23R Fc Chimera Avi-tag

Catalog Number: AVI1400

DESCRIPTION

Source

Human embryonic kidney cell, HEK293-derived human IL-23R protein



N-terminal Sequence Analysis	Gly24
Structure / Form	Disulfide-linked homodimer Biotinylated via Avi-tag
Predicted Molecular Mass	66 kDa

SPECIFICATIONS

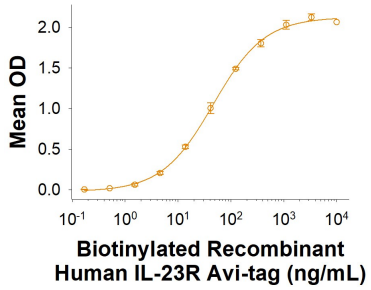
SDS-PAGE	90-102 kDa, under reducing conditions.
Activity	Measured by its binding ability in a functional ELISA. When Recombinant Human IL-23 Protein (Catalog # 1290-IL) is immobilized at 1.0 µg/mL (100 µL/well), the concentration of Biotinylated Recombinant Human IL-23R Fc Chimera Avi-tag (Catalog # AVI1400) that produces 50% of the optimal binding response is 10.0-100 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.

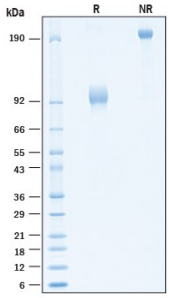
DATA

Binding Activity



Biotinylated Recombinant Human IL-23R Fc Chimera Avi-tag Protein Binding Activity
When Recombinant Human IL-23 Protein (Catalog # 1290-IL) is immobilized at 1.0 µg/mL (100 µL/well), the concentration of Biotinylated Recombinant Human IL-23R Fc Chimera Avi-tag Protein (Catalog # AVI1400) that produces 50% of the optimal binding response is 10.0-100 ng/mL.

SDS-PAGE



Biotinylated Recombinant Human IL-23R Fc Chimera Avi-tag Protein SDS-PAGE. 2 µg/lane of Biotinylated Recombinant Human IL-23R Fc Chimera Avi-tag Protein (Catalog # AVI1400) was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing bands at 90-102 kDa and 180-200 kDa, respectively.

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BACKGROUND

Interleukin 23 (IL-23) is a heterodimeric cytokine composed of two disulfide-linked subunits, a p19 subunit that is unique to IL-23, and a p40 subunit that is shared with IL-12 (1 - 5). The functional IL-23 receptor complex consists of two receptor subunits, the IL-12 receptor beta 1 subunit (IL-12 Rβ1) and the IL-23-specific receptor subunit (IL-23 R) (3). Human IL-23 R cDNA encodes a 629 aa type I transmembrane protein with a 23 aa residue signal peptide, a 330 aa residue extracellular domain, a 23 aa residue transmembrane domain and a 253 aa residue cytoplasmic region. IL-23 R shares structural features with the IL-12 Rβ2, including an N-terminal Ig-like domain, two cytokine receptor domains and multiple glycosylation sites in the extracellular domain. IL-23 R lacks the three extracellular membrane-proximal fibronectin-type III domains present on IL-12 Rβ2. IL-23 R has a WQPWS sequence in the transmembrane-proximal cytokine receptor domain similar to the cytokine receptor signature WSXWS motif. The cytoplasmic region of IL-23 R has three potential Src homology 2 domain-binding sites and two potential Stat-binding sites. The gene for human IL-23 R is located on human chromosome 1 within 150 kb of IL-12 Rβ2. Human and mouse IL-23 R share 66% amino acid sequence identity. Based on quantitative real-time PCR, human IL-23 R mRNA is expressed in a human Th1 and Th0 clone as well as several NK cell lines and clones. Low but detectable levels of IL-23 R mRNA is also expressed in EBV-transformed B cells and activated PBMC. IL-23 initiates a signal transduction cascade similar to that of IL-12, and involves Jak2, Tyk2, Stat1, Stat3, Stat4, and Stat5. IL-23 has biological activities that are similar to, but distinct from IL-12. Our Avi-tag Biotinylated human IL-23R 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:

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2. Lankford, C.S. and D.M. Frucht (2003) J. Leukoc. Biol. **73**:49.
3. Parham, C. *et al.* (2002) J. Immunol. **168**:5448.
4. Belladonna, M.L. *et al.* (2002) J. Immunol. **168**:5448.
5. Aggarwal, S. *et al.* (2003) J. Biol. Chem. **278**:1910.

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