Recombinant Human IL-23R His-tag

Catalog Number: 11408-IR

DESCRIPTION

Source	Chinese Hamster Ovary cell line, CHO-derived human IL-23R protein Gly24-Asp353, with a C-terminal 6-His tag Accession # AAM44229.1
N-terminal Sequence Analysis	Gly24
Predicted Molecular Mass	39 kDa

SPECIFICATIONS

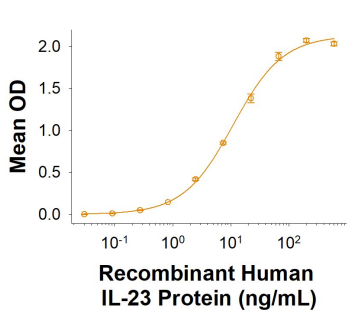
SDS-PAGE	66-74 kDa, under reducing conditions.
Activity	Measured by its binding ability in a functional ELISA. Recombinant Human IL-23R His-tag binds to Recombinant Human IL-23 Protein (Catalog # 1290-IL) with a ED_{50} of 3.00-30.0 ng/mL.
Endotoxin Level	<0.10 EU per 1 µg of the protein by the LAL method.
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.

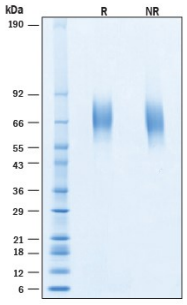
DATA

Binding Activity



Recombinant Human IL-23R His-tag Protein Binding Activity. Measured by its binding ability in a functional ELISA. Recombinant Human IL-23R His-tag Protein (Catalog # 11408-IR) binds to Recombinant Human IL-23 Protein (Catalog # 1290-IL) with a ED_{50} of 3.00-30.0 ng/mL.

SDS-PAGE



Recombinant Human IL-23R His-tag Protein SDS-PAGE. 2 µg/lane of Recombinant Human IL-23R His-tag Protein (Catalog # 11408-IR) was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing bands at 66-74 kDa, under reducing conditions.

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.

References:

1. Oppmann, B. *et al.* (2000) Immunity **13**:715.
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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