

Active Recombinant Human IL7R protein, Fc/Avi-tagged, Biotinylated

Cat. No. IL7R-051H Lot. No. (See product label)

SPECIFICATION

Product Overview

Biotinylated Recombinant Human IL7R(Glu21-Asp239) protein, fused to Fc/Avi tag at the C-terminus, was expressed in HEK293 cells .

Species

Human

Source

HEK293

ProteinLength

Glu21-Asp239

Description

Interleukin 7 Receptor alpha (IL7 R alpha), also known as CD127, is a 75 kDa hematopoietin receptor superfamily member that plays an important role in lymphocyte differentiation, proliferation, and survival (1, 2). Mature human IL-7 R alpha consists of a 219 amino acid (aa) extracellular domain (ECD) with one fibronectin type-III domain and a WSXWS motif, a 25 aa transmembrane segment, and a 195 aa cytoplasmic domain (3). Alternate splicing of human IL-7 R alpha generates a secreted soluble form of the receptor (3). Within the ECD, human IL-7 R alpha shares 67% aa sequence identity with mouse and rat IL-7 R alpha. IL-7 R alpha associates with the common gamma chain (gamma c) to form the functional high affinity IL-7 receptor complex (4). The gamma c is also a subunit of the receptors for IL-2, -4, -9, -15, and -21. Human and mouse IL-7 show cross-species activity through the IL-7 receptor (3, 5). IL-7 R alpha is expressed on double negative (CD4-/CD8-) and CD4+ or CD8+ single positive T cells as well as on CD8+ memory T cells and their precursors (6, 7). It is expressed early in B cell

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development, prior to the appearance of surface IgM (6). In mouse, IL-7 activation of IL-7 R alpha is critical for both T cell and B cell lineage development (8). In human, by contrast, it is required for T cell but not for B cell development (9). IL-7 induces the downregulation and shedding of cell surface IL-7 R alpha (10). IL-7 R alpha additionally associates with TSLP R to form the functional receptor for thymic stromal lymphopoietin (11, 12). TSLP indirectly regulates T cell development by modulating dendritic cell activation (2, 13). Knockout of TSLP R in mice provokes minor changes in B and T cell development compared to those seen with IL-7 R alpha deletion (8, 14). The complexity of IL-7 R alpha biology is suggested by the competition between IL-7 and TSLP for receptor binding and by the ability of IL-7 R alpha to form functional complexes with SCF R and HGF R (11, 12, 15, 16).

Predicted N Terminal Glu21

Form Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose.

Bio-activity Measured by its binding ability in a functional ELISA. When Recombinant Human IL7 is immobilized at 1 µg/mL (100 µ/well), it binds to Biotinylated Recombinant Human IL7R Fc Chimera Avi-tag with an ED50 of 0.1-1 µg/mL.

Molecular Mass 74-103 kDa, under reducing conditions

Endotoxin <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.

Applications Bioactivity

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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.

Reconstitution Reconstitute at 500 µg/mL in PBS.

Conjugation Biotin

GENE INFORMATION

Gene Name IL7R interleukin 7 receptor [Homo sapiens]

Official Symbol IL7R

Synonyms IL7R; interleukin 7 receptor; interleukin-7 receptor subunit alpha; CD127; IL-7RA; CD127 antigen; IL-7R subunit alpha; IL-7 receptor subunit alpha; interleukin 7 receptor alpha chain; interleukin 7 receptor isoform H5-6; ILRA; IL7RA; CDW127; IL-7R-alpha;

Gene ID 3575

mRNA Refseq NM_002185

Protein Refseq NP_002176

MIM 146661

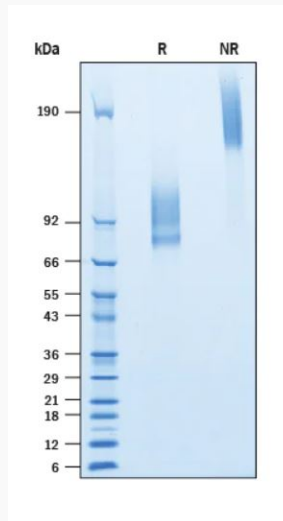
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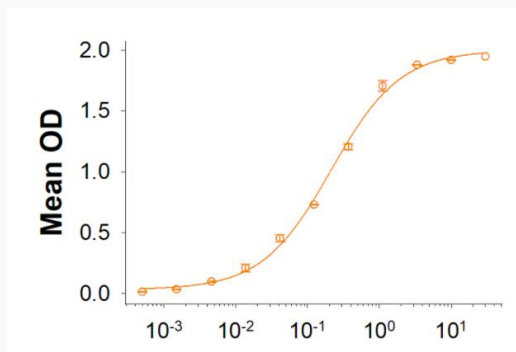
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SDS-PAGE



2 µg/lane Protein was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining.

Binding Activity



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