

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

Cat. No. ICOSLG-053H Lot. No. (See product label)

SPECIFICATION

Product Overview

Biotinylated Recombinant Human ICOSLG(Asp19-Ser258) protein, fused to Fc/Avi tag at the C-terminus, was expressed in CHO cells .

Species

Human

Source

CHO

ProteinLength

Asp19-Ser258

Description

B7-H2, also known as B7-related protein (B7RP1), ICOS Ligand, and CD275, is transmembrane glycoprotein in the B7 family of immune regulatory molecules (1). Mature human B7-H2 consists of an extracellular domain (ECD) with two immunoglobulin-like domains, a transmembrane segment, and a short cytoplasmic domain (2, 3). Alternative splicing generates a long isoform that carries a 10 amino acid (aa) substitution for the C-terminal 3 residues. Within the ECD, human B7-H2 shares 50% and 54% aa sequence identity with mouse and rat B7-H2, respectively. B7-H2 is expressed on antigen presenting cells such as B cells, macrophages, monocytes, and dendritic cells (2-6). It binds to ICOS on activated T cells, leading to both positive and negative effects on immune responses including its own down-regulation (2, 4, 7). Mouse and human B7-H2 exhibit cross-species binding to ICOS (3, 6). The B7-H2 interaction with ICOS is co-stimulatory for T cell proliferation as well as the development of B cells, plasma cells, follicular helper T cells (Tfh) and germinal centers (2-4, 8, 9). In human but not in mouse, B7-H2 additionally binds to CD28 and

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CTLA4, and its interaction with CD28 can co-stimulate both human and mouse naïve T cells and regulatory T cells (Treg) (6). B7-H2 contributes to the development of allergic asthma by enhancing Th2 biased immune responses, limiting Th17 responses, and promoting eosinophilic infiltration into the lung (8, 10, 11). Its activation of ICOS on Treg limits pulmonary inflammation and airway hyperresponsiveness, promotes the development of inhalational tolerance, and impairs anti-tumor immunity (5, 12, 13). In contrast, its ligation of ICOS on Tfh cells can increase the severity of autoimmune symptoms (9). A soluble form of human B7-H2 is elevated in the circulation of patients with active systemic lupus erythematosus (14). In the thyroid, B7-H2 is up-regulated on thyrocytes during inflammation and promotes their proliferation and production of thyroid hormones (15). Our Avi-tag Biotinylated Recombinant Human B7-H2 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.

Predicted N Terminal Asp19

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

Bio-activity The biotin to protein ratio is 0.7 as determined by the HABA assay. Measured by its binding ability in a functional ELISA. When Recombinant Human ICOS Fc Chimera Protein is immobilized at 0.5 g/mL (100 µg/well), Biotinylated Recombinant Human ICOSLG Fc Chimera Avi-tag that produces a 50% optimal binding response is found to be 1-6 ng/mL.

Molecular Mass 80-100 kDa, under reducing conditions

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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
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	ICOSLG inducible T-cell co-stimulator ligand [Homo sapiens]
Official Symbol	ICOSLG
Synonyms	ICOSLG; inducible T-cell co-stimulator ligand; ICOSL; ICOS ligand; B7 homolog 2; B7 homologue 2; B7 H2; B7 related protein 1; B7H2; B7RP 1; B7RP1; CD275; GL50; ICOS L; KIAA0653; B7-like protein GL50; B7-related protein 1; transmembrane protein B7-H2 ICOS ligand; B7-H2; LICOS; B7RP-1; ICOS-L;
Gene ID	23308
mRNA Refseq	NM_015259

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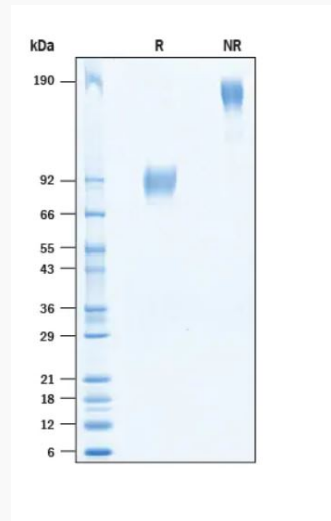
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Protein Refseq NP_056074

MIM 605717

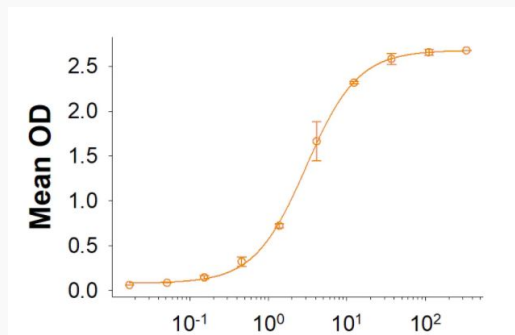
UniProt ID O75144

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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