

Active Recombinant Human CD276 protein, Fc/Avi-tagged, Biotinylated

Cat. No. CD276-053H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Biotinylated Recombinant Human CD276(Leu29-Pro245) protein, fused to Fc/Avi tag at the C-terminus, was expressed in CHO cells .
Species	Human
Source	CHO
ProteinLength	Leu29-Pro245
Description	T cells require a signal induced by the engagement of the T cell receptor and a "co-stimulatory" signal(s) through distinct T cell surface molecules for optimal T cell expansion and activation. Members of the B7 superfamily of counter-receptors were identified by their ability to interact with co-stimulatory molecules found on the surface of T cells. Members of the B7 superfamily include B7-1 (CD80), B7-2 (CD86), B7-H1 (PD-L1), B7-H2 (B7RP-1), PD-L2 (B7-DC), and B7-H3 (1). Human B7-H3 was originally identified as a 316 amino acid (aa) type I membrane precursor protein with a putative 28 aa signal peptide, a 217 aa extracellular region containing one V-like and one C-like Ig domain, a transmembrane region, and a 45 aa cytoplasmic domain (2). Subsequently, a second dominantly expressed form of human B7-H3, containing a splice variation that duplicates the V-like and C-like Ig domains, was found. The 534 aa splice variant of B7-H3 has been referred to as B7-H3b, 4Ig-B7-H3, and B7-H3VCVC (3). RT-PCR transcripts for both B7-H3 and 4Ig-B7-H3 have been found in all tissues except peripheral blood leukocytes (5). Southern blot analysis

 Tel: 1-631-559-9269 1-516-512-3133

 Email: info@creative-biomart.com  Fax: 1-631-938-8127

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indicates that the 4Ig-B7-H3 isoform of B7-H3 is the predominate isoform expressed in human tissues (5). In mouse, only a single form of B7-H3 containing one V-like and one C-like Ig domain was detected (5). Mouse and human B7-H3 share 87% aa sequence identity (3). B7-H3 has been shown to be expressed at very high levels in immature dendritic cells, at moderate levels on mature dendritic cells, LPS stimulated immature dendritic cells and LPS stimulated monocytes, and at low levels on resting monocytes (3). B7-H3 binds to activated T cells via an as yet unidentified receptor. In assays using sub-optimal amount so anti-CD3 stimulation, 2Ig-B7-H3 enhances T cell proliferation, T cell interferon-gamma (IFN-gamma) production, and cytotoxic T cells induction (2). In an assay in which cells were transfected with 4Ig-B7-H3 or 2Ig-B7-H3 and anti-CD3 antibody was added, neither 4Ig-B7-H3 nor 2Ig-B7-H3 was capable of co-stimulating T cell proliferation or IFN-gamma production (4, 5). Our Avi-tag Biotinylated human B7-H3 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	Leu29
Form	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose.
Bio-activity	When Human CD276 Antibody is immobilized at 1 µg/mL, 100 µL/well, the concentration of Biotinylated Recombinant HumanCD276 Fc Chimera Avi-tag that produces 50% of the optimal binding response is approximately 3-18 ng/mL.
Molecular Mass	62-74 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	CD276 CD276 molecule [Homo sapiens]
Official Symbol	CD276
Synonyms	CD276; CD276 molecule; CD276 antigen; B7 H3; B7H3; B7RP 2; B7 homolog 3; costimulatory molecule; B7-H3; B7RP-2; 4Ig-B7-H3;
Gene ID	80381
mRNA Refseq	NM_001024736
Protein Refseq	NP_001019907

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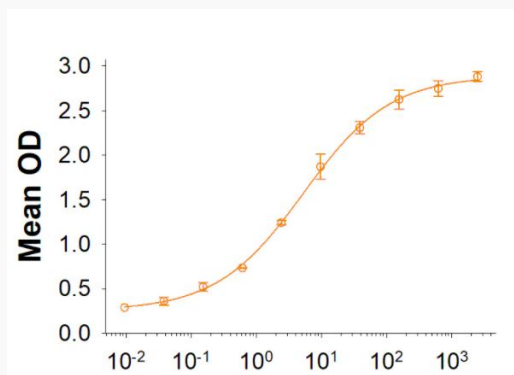
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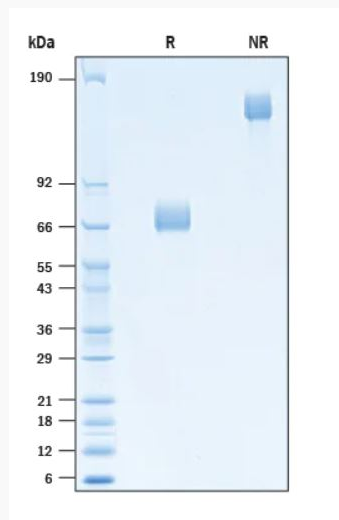
MIM 605715

UniProt ID Q5ZPR3

Binding Activity



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.

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