

## Active Recombinant Human CTLA4 protein, Fc/Avi-tagged, Biotinylated

**Cat. No.** CTLA4-051H    **Lot. No.** (See product label)

### SPECIFICATION

|                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
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| <b>Product Overview</b> | Biotinylated Recombinant Human CTLA4(Ala37-Phe162) protein, fused to Fc/Avi tag at the C-terminus, was expressed in HEK293 cells .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Species</b>          | Human                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Source</b>           | HEK293                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>ProteinLength</b>    | Ala37-Phe162                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Description</b>      | <p>CTLA-4 (cytotoxic T-lymphocyte associated protein-4, designated CD152), is a type I transmembrane T cell inhibitory molecule that is a member of the Ig superfamily (1, 2). Human or mouse CTLA-4 cDNA encodes 223 amino acids (aa) including a 35 aa signal sequence, a 126 aa extracellular domain (ECD) with one Iglike V-type domain, a 21 aa transmembrane (TM) sequence, and a 41 aa cytoplasmic sequence. It is found as a covalent homodimer of 41-43 kDa (2) Within the ECD, human CTLA-4 shares 68%, 71% and 83-86% aa sequence identity with mouse, rat and porcine/bovine/rabbit/feline/canine CTLA-4, respectively. A 174 aa form that lacks TM and cytoplasmic sequences (sCTLA-4) is possibly secreted (3-5). Isoforms of 56-79 aa that mainly contain parts of the cytoplasmic domain are reported. In mouse, an isoform lacking the Ig-like domain has ligand-independent inhibitory activity and is termed liCTLA-4 (6). CD28, which is structurally related to CTLA-4, is constitutively expressed on naïve T cells and promotes T cell activation when engaged by B7-2 on antigen-presenting cells (APC) within the immunological</p> |

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synapse (IS) (1, 7, 8). In contrast, CTLA-4 is recruited from intracellular vesicles to the IS beginning 1-2 days after T cell activation (2, 7, 8). It forms a linear lattice with B7-1 on APC, inducing negative regulatory signals and ending T cell activation (9). Abatacept, a therapeutic human CTLA-4-Ig fusion protein (trade name Orencia), competes with CD28 for B7-1 and B7-2 binding and has been used to antagonize T cell activation in autoimmune conditions and to enhance transplant survival (10). Mice deleted for CTLA-4 show no abnormalities until after birth, but then develop lethal autoimmune reactions due to continued T cell activation and poor control by regulatory T cells, which constitutively express CTLA-4 in wild-type mice and humans (11-13).

|                             |                                                                                                                                                                                                                                       |
|-----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Predicted N Terminal</b> | Ala37                                                                                                                                                                                                                                 |
| <b>Form</b>                 | Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose.                                                                                                                                                                    |
| <b>Bio-activity</b>         | Measured by its binding ability in a functional ELISA. When Recombinant Human CD80 Fc Chimera is immobilized at 0.5 µg/mL (100 µL/well), Biotinylated Recombinant Human CTLA4 Fc Chimera Avi-tag binds with an ED50 of 0.4-2.4 ng/mL. |
| <b>Molecular Mass</b>       | 53-61 kDa, under reducing conditions                                                                                                                                                                                                  |
| <b>Endotoxin</b>            | <0.10 EU per 1 µg of the protein by the LAL method.                                                                                                                                                                                   |
| <b>Purity</b>               | >95%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.                                                                                                                          |
| <b>Applications</b>         | Bioactivity                                                                                                                                                                                                                           |
| <b>Storage</b>              | 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                                                            |

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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** CTLA4 cytotoxic T-lymphocyte-associated protein 4 [ Homo sapiens ]

**Official Symbol** CTLA4

**Synonyms** CTLA4; cytotoxic T-lymphocyte-associated protein 4; celiac disease 3 , CELIAC3; cytotoxic T-lymphocyte protein 4; CD; CD28; CD152; GSE; ICOS; CD152 isoform; celiac disease 3; cytotoxic T-lymphocyte antigen 4; cytotoxic T-lymphocyte-associated antigen 4; cytotoxic T-lymphocyte-associated serine esterase-4; cytotoxic T lymphocyte associated antigen 4 short spliced form; ligand and transmembrane spliced cytotoxic T lymphocyte associated antigen 4; GRD4; CTLA-4; IDDM12; CELIAC3;

**Gene ID** 1493

**mRNA Refseq** NM\_001037631

**Protein Refseq** NP\_001032720

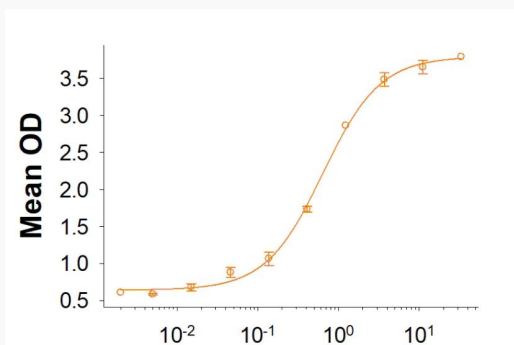
**UniProt ID** P16410

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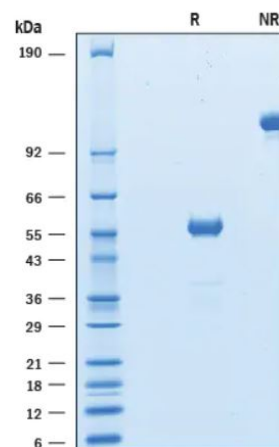
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## Binding Activity



## 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.