

# Recombinant Human CTLA4 protein, His-tagged

**Cat. No.** CTLA4-2232H    **Lot. No.** (See product label)

## SPECIFICATION

|                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
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| <b>Product Overview</b>     | Recombinant Human CTLA4 (Ala37-Phe162) protein was fused to His-tag at C-terminus and expressed in human 293 cells (HEK293).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Species</b>              | Human                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Source</b>               | HEK293                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>ProteinLength</b>        | Ala37-Phe162                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Description</b>          | <p>CTLA-4 (Cytotoxic T-Lymphocyte Antigen 4) is also known as CD152 (Cluster of differentiation 152), is a protein receptor that downregulates the immune system. CTLA4 is a member of the immunoglobulin superfamily, which is expressed on the surface of Helper T cells and transmits an inhibitory signal to T cells. The protein contains an extracellular V domain, a transmembrane domain, and a cytoplasmic tail. Alternate splice variants, encoding different isoforms. CTLA4 is similar to the T-cell co-stimulatory protein, CD28, and both molecules bind to CD80 and CD86, also called B7-1 and B7-2 respectively, on antigen-presenting cells. CTLA4 transmits an inhibitory signal to T cells, whereas CD28 transmits a stimulatory signal. Intracellular CTLA4 is also found in regulatory T cells and may be important to their function. T cell activation through the T cell receptor and CD28 leads to increased expression of CTLA-4, an inhibitory receptor for B7 molecules. Fusion proteins of CTLA4 and antibodies (CTLA4-Ig) have been used in clinical trials for rheumatoid arthritis.</p> |
| <b>Predicted N Terminal</b> | Ala37                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

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|                       |                                                                                                                                                                                                                                                                                                                                                                 |
|-----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Form</b>           | Lyophilized from 0.22 µm filtered solution in PBS, pH7.4, 10% trehalose.                                                                                                                                                                                                                                                                                        |
| <b>Molecular Mass</b> | The protein has a calculated MW of 15.4 kDa. The protein migrates as 25-30 kDa under reducing (R) condition (SDS-PAGE) due to different extent glycosylation.                                                                                                                                                                                                   |
| <b>Endotoxin</b>      | Less than 1.0 EU per µg by the LAL method.                                                                                                                                                                                                                                                                                                                      |
| <b>Purity</b>         | >95% as determined by SDS-PAGE.                                                                                                                                                                                                                                                                                                                                 |
| <b>Storage</b>        | <p>For long term storage, the product should be stored at lyophilized state at -20 centigrade or lower.</p> <p>Please avoid repeated freeze-thaw cycles.</p> <p>This product is stable after storage at:</p> <p>-20 to -70 centigrade for 12 months in lyophilized state;</p> <p>-70 centigrade for 3 months under sterile conditions after reconstitution.</p> |
| <b>Reconstitution</b> | It is recommended that sterile water be added to the vial to prepare a stock solution of 0.2 ug/ul. Centrifuge the vial at 4°C before opening to recover the entire contents.                                                                                                                                                                                   |

## GENE INFORMATION

|                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Gene Name</b>       | CTLA4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Official Symbol</b> | CTLA4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Synonyms</b>        | 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; |

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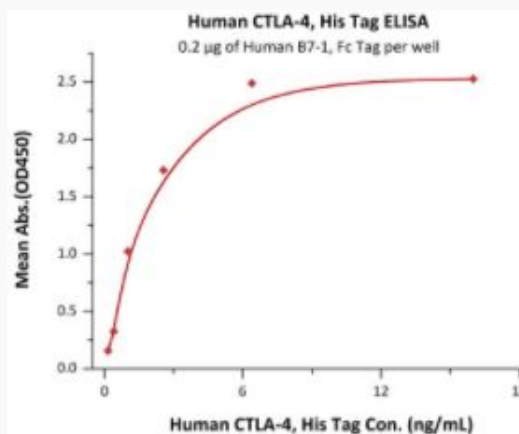
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### CELIAC3

|                |              |
|----------------|--------------|
| Gene ID        | 1493         |
| mRNA Refseq    | NM_001037631 |
| Protein Refseq | NP_001032720 |
| MIM            | 123890       |
| UniProt ID     | P16410       |

#### Bioactivity-ELISA of CTLA4-2232H



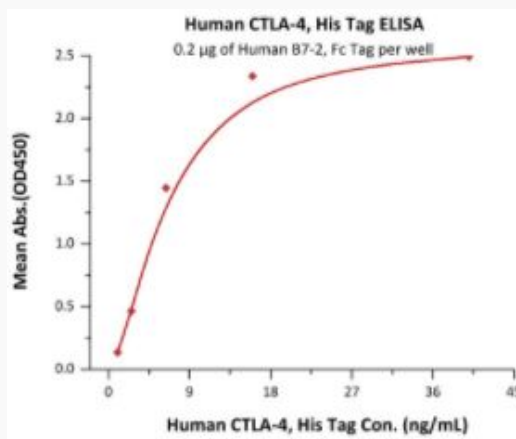
Immobilized Human B7-1, Fc Tag at 2 µg/mL (100 µL/well) can bind Human CTLA-4, His Tag with a linear range of 0.16-2.56 ng/mL (QC tested).

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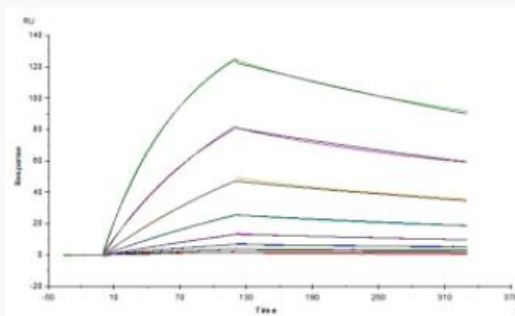
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### Bioactivity-ELISA



Immobilized Human B7-2, Fc Tag at 2 µg/mL (100 µL/well) can bind Human CTLA-4, His Tag with a linear range of 1-6.4 ng/mL (Routinely tested).

### Bioactivity-SPR of CTLA4-2232H



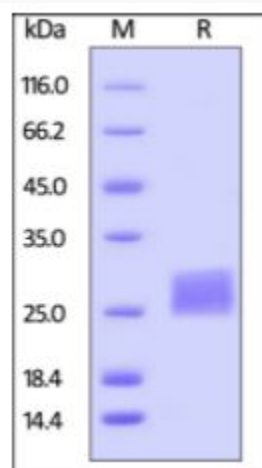
Yervoy (Ipilimumab, Human IgG1) captured on CM5 chip via anti-human IgG Fc antibodies surface, can bind Human CTLA-4, His Tag with an affinity constant of 25.7 nM as determined in a SPR assay (Biacore T200) (Routinely tested).

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**SDS-PAGE of  
CTLA4-2232H**



Human CTLA-4, His Tag on SDS-PAGE under reducing (R) condition. The gel was stained overnight with Coomassie Blue. The purity of the protein is greater than 95%.

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