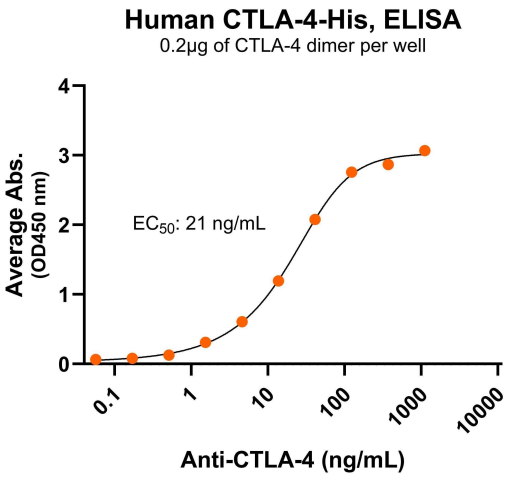
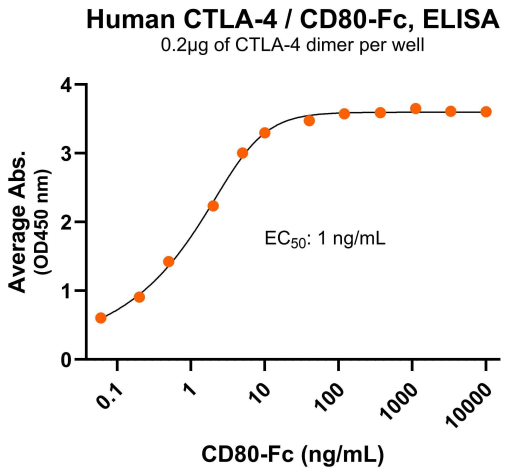
Bioactive, Human CTLA-4 Dimer, His Tag
Product Code: CSP-24031
For Research Use Only (RUO)

Bioactivity – Antibody Binding



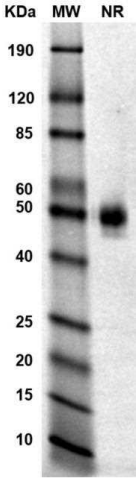
Immobilized human CTLA-4 dimer protein, His Tag (Cat. No. CSP-24031) at 2 μg/mL (100 μL/well) can bind anti-human CTLA-4 monoclonal antibody with half maximal effective concentration (EC50) range of 10.5-42 ng/mL (QC tested).

Bioactivity – Ligand Binding



Immobilized human CTLA-4 dimer protein, His Tag (Cat. No. CSP-24031) at 2 μg/mL (100 μL/well) can bind human CD80 dimer protein, with half maximal effective concentration (EC50) range of 0.5-2 ng/mL (QC tested).

SDS-PAGE



MW: Molecular Weight marker reduced condition
NR: CTLA-4 dimer under non-reducing condition

The migration range of the dimer under non-reducing conditions is 50-60 kDa on SDS PAGE.

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Expression Host
HEK293T

Protein Name
CTLA-4

Purity
Greater than 90% dimer form as determined by SDS-PAGE under non-reducing condition

Alternate Name(s)
Cytotoxic T-lymphocyte associated protein 4, CTLA4, CD152, CD152 antigen, ALPS5, CD, CELIAC3, GRD4, GSE, IDDM12

Protein Construct
CTLA-4 protein dimer contains a CTLA-4 extracellular domain (Uniprot# P16410) fused with a proprietary dimer motif followed by a His tag at the C-terminus. Expressed in HEK293T cell line.

Amino Acid Range
K36-D161

SDS-Page Molecular Weight
50 kDa. The migration range of the dimer under non-reducing conditions is 50-60 kDa on SDS PAGE.

Formulation
0.22µm filtered PBS, pH 7.4

Shipping Conditions
Frozen Dry Ice

Stability & Storage
-80^{0}C

Background

Cytotoxic T-lymphocyte associated protein 4 (CTLA-4), also known as CD152 (cluster of differentiation 152), CD152 antigen, CTLA4, ALPS5, CD, CELIAC3, GRD4, GSE, and IDDM12 is a member of the immunoglobulin superfamily. CTLA-4 contains an extracellular immunoglobulin-like (Ig-like) domain (an Ig-V-like and an Ig-C-like domain), a transmembrane domain, and a cytoplasmic tail. As an immune checkpoint CTLA-4 binds both CD80 (Cluster of differentiation 80) and CD86 (Cluster of differentiation 86) to transmit an inhibitory signal to T cells, competing with CD28 (Cluster of differentiation 28) which transmits a stimulatory signal. It is often overexpressed in malignancies caused by immunosurveillance, making the inhibition of immune checkpoint proteins like CTLA-4 an emerging strategy in cancer therapy. CTLA-4 gene variants have been associated with Type 1 diabetes, Graves' disease, Hashimoto's thyroiditis, celiac disease, and other autoimmune diseases.