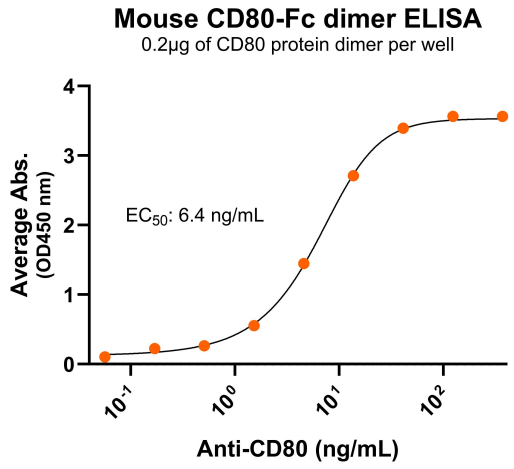
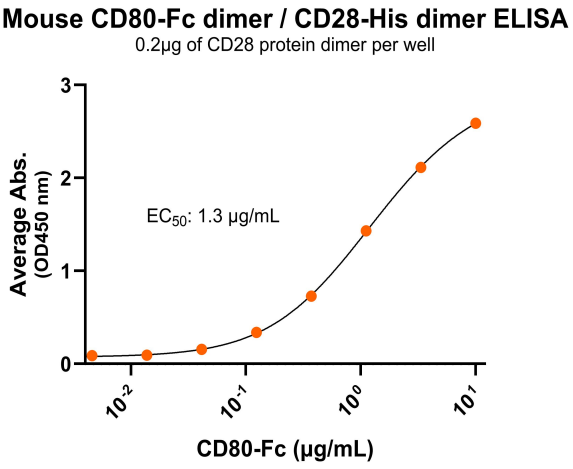
Bioactive, Recombinant Mouse CD80 Protein Dimer, Fc Tag
Product Code: CSP-25187-04
For Research Use Only (RUO)

Bioactivity – Antibody Binding



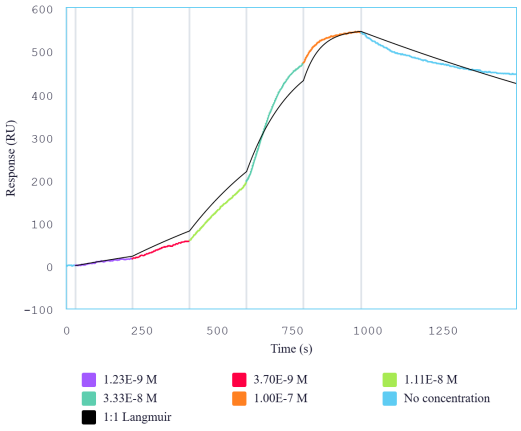
Immobilize mouse CD80-hFc protein dimer, Fc Tag (Cat. No. CSP-25187-04) at 2 μg/mL (100 μL/well) can bind anti-mouseCD80 monoclonal antibody with half maximal effective concentration (EC50) range of 3.2-12.9ng/mL (QC tested).

Bioactivity – Antibody Binding



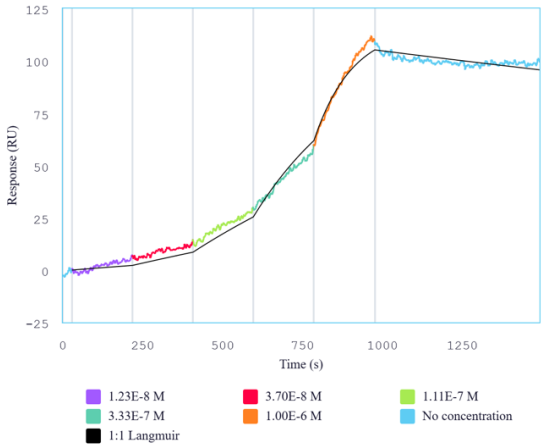
Immobilized mouse CD28 protein dimer, His Tag (CSP-25186-01 at 2 μg/mL (100 μL/well) can bind mouse CD80 protein dimer, Fc Tag (Cat. No. CSP-25187-04) dimer protein, with half maximal effective concentration (EC50) range of 0.6-2.6 μg/mL (QC tested).

Bioactivity – SPR



Immobilized mouse CTLA-4 protein dimer, His tag (CSP-25185-01) can bind mouse CD80 protein dimer, Fc Tag (Cat. No. CSP-25187-04) with a KD of 1.4-5.5 nM as determined by SPR.

Bioactivity – SPR



Immobilized mouse CD28 protein dimer, His tag (CSP-25186-01) can bind mouse CD80 protein dimer, Fc Tag (Cat. No. CSP-25187-04) with a KD of 11.3-45 nM as determined by SPR.

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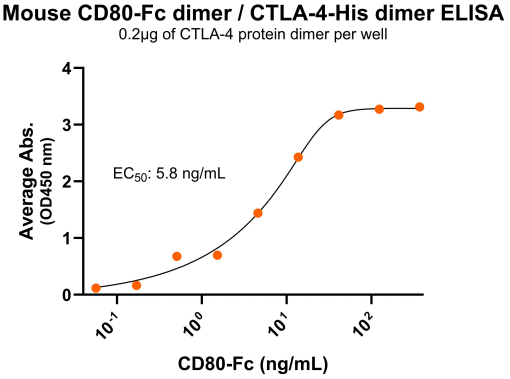
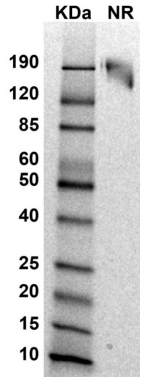
Bioactivity – Ligand Binding



Immobilized mouse CTLA-4 protein dimer, His Tag (CSP-25185-01) at 2 μg/mL (100 μL/well) can bind mouse CD80 protein dimer, Fc Tag (Cat. No. CSP-25187-04) dimer protein, with half maximal effective concentration (EC50) range of 2.9-11.7 ng/mL (QC tested).

SDS-PAGE



MW: Molecular Weight marker reduced condition
NR: CD80 dimer under non-reduced condition

The migration range of the protein dimer with glycosylation under non-reduced condition is ~190 kDa on SDS PAGE.

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Expression Host
HEK293T

Protein Name
CD80-hFc

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

Alternate Name(s)
B7, B7-1, B7.1, BB1, CD28LG, CD28LG1, LAB7

Protein Construct
Mouse CD80 protein dimer contains the CD80 extracellular domain (UniProt# Q00609) fused with a proprietary dimer motif followed by a Fc tag at the C-terminus. Expressed in HEK293T cell line.

Amino Acid Range
V38-N246

SDS-Page Molecular Weight
100 kDa. The migration range of the protein dimer with glycosylation under non-reduced condition is ~190 kDa on SDS PAGE.

Formulation
0.22μm filtered PBS, pH 7.4

Shipping Conditions
Frozen Dry Ice

Stability & Storage
-80^0C

Background

Cluster of differentiation 80 (CD80) is a Type I transmembrane glycoprotein in the immunoglobulin superfamily and a member of the B7 Family of ligands. CD80 is also known as B7, B7-1, B7.1, BB1, CD28LG, CD28LG1, and LAB7. CD80 contains an extracellular domain (ECD), a transmembrane domain, and a cytoplasmic domain. The ECD consists of two immunoglobulin (Ig)-like subdomains, a variable-like domain (Ig-V-like domain), and a constant-like domain (Ig-C-like domain). It is primarily expressed on antigen-presenting cells (APCs), such as dendritic cells, macrophages, and B cells. CD80 interacts with CTLA-4 (Cytotoxic T-lymphocyte associated protein 4) to transmit an inhibitory signal with T cells and CD28 (Cluster of differentiation 28) to transmit a stimulatory signal. It is often overexpressed in various autoimmune diseases such as multiple sclerosis and systemic lupus erythematosus, as well as some cancers. CD80 exists as a monomer but its dimeric form can influence immune regulation and contribute to pathogenic conditions. A recombinant protein mimicking the CD80 dimer conformation can be crucial for therapeutic discovery. While structurally and functionally similar to human CD80, mouse CD80 is a species-specific tool essential for preclinical studies, basic research and translational research in cancer immunotherapy.