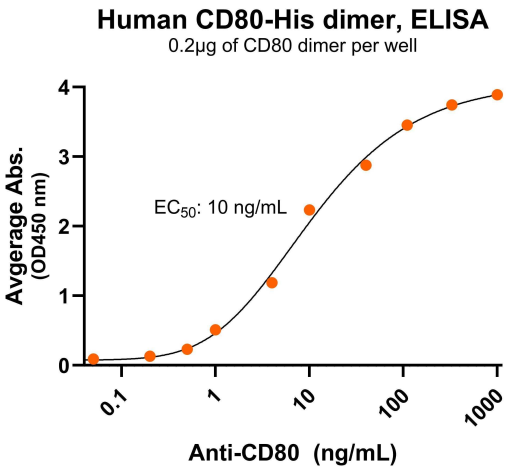
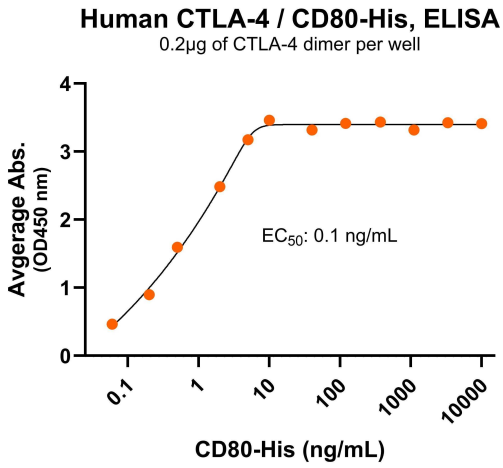
Bioactive, Human CD80 Dimer, His Tag
Product Code: CSP-24033
For Research Use Only (RUO)

Bioactivity – Antibody Binding



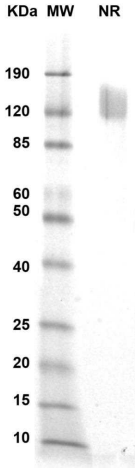
Immobilized CD80-His dimer protein (Cat. No. CSP-24033) at 2 μg/mL (100 μL/well) can bind anti-human CD80 monoclonal antibody with half maximal effective concentration (EC50) range of 5.1-20.3 ng/mL (QC tested).

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-His (Cat. No. CSP-24033) dimer protein, with half maximal effective concentration (EC50) range of 0.1-0.2 ng/mL (QC tested).

SDS-PAGE



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

The migration range of the dimer under non-reducing conditions is 100-170 kDa on SDS PAGE.

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Expression Host
HEK293T

Protein Name
CD80

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
CD80 dimer protein contains a CD80 extracellular domain (UniProt# P33681) fused with a dimer motif followed by a His tag at the C-terminus. Expressed in HEK293T cell line.

Amino Acid Range
V35-N242

SDS-Page Molecular Weight
64 kDa. The migration range of the dimer under non-reducing conditions is 100-170 kDa on SDS PAGE.

Formulation
0.22µm filtered PBS, pH 7.4

Shipping Conditions
Frozen Dry Ice

Stability & Storage
-80^{0}C

Background

Human CD80 (Cluster of differentiation 80) 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.