
Product Name: Bioactive, Human CD80 Protein Dimer, His Tag

Product Code: CSP-24033-01

FOR RESEARCH USE ONLY (RUO)

Protein Name: CD80, Protein Dimer

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

Expression Host
HEK293T

Amino Acid Range
V35-N242

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.

SDS-Page Molecular Weight

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

Purity

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

Shipping Conditions

Frozen Dry Ice

Formulation

0.22µm filtered PBS, pH 7.4

Stability & Storage

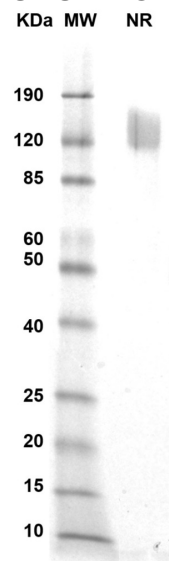
On receipt, store at -70 C or lower for long term storage.

This product is stable at:

-70 C for 6 months from date of receipt.

Avoid repeated freeze-thaw cycles

SDS-PAGE



MW: Molecular Weight marker reduced condition

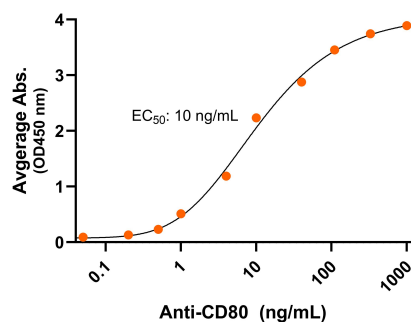
NR: CD80 dimer under non-reducing condition

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

Antibody Binding

Human CD80-His dimer, ELISA

0.2µg of CD80 dimer per well

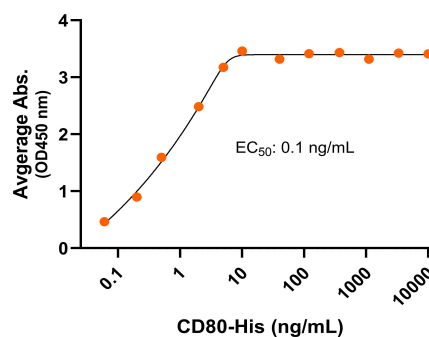


Immobilized CD80-His dimer protein (Cat. No. CSP-24033-01) at 2 µg/mL (100 µL/well) can bind anti-human CD80 monoclonal antibody with half maximal effective concentration (EC₅₀) range of 5.1-20.3 ng/mL (QC tested).

Ligand Binding

Human CTLA-4 / CD80-His, ELISA

0.2µg of CTLA-4 dimer per well



Immobilized human CTLA-4 dimer protein, His Tag (Cat. No. CSP-24031-01) at 2 µg/mL (100 µL/well) can bind human CD80-His (Cat. No. CSP-24033-01) dimer protein, with half maximal effective concentration (EC₅₀) range of 0.1-0.2 ng/mL (QC tested).

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.