

Technical Data Sheet

Human CTLA4 Protein (C-His)

Catalog Number: 807901, 807902

Size: 25 ug, 100 ug

Target Name: CTLA4, CD152

Regulatory Status: RUO

Product Details

Application: ELISA, BLI

Format: Liquid, Purified

Expression Host: CHO

Species: Human

Sources: Recombinant Human CTLA4 Protein (Ala37-Phe162) with C-terminus His-tag is expressed in CHO cell.

Accession Number: P16410

Molecular Weight: The protein has a predicted molecular weight of 15 kDa. Under DTT-reducing conditions, it migrates at approximately 25 kDa on SDS-PAGE.

Affinity Tag: C-His

Purity: >90% based on SDS-PAGE under reducing condition

Formulation: 1xPBS buffer, pH7.4, 0.22 µm filtered

Endotoxin level: Not tested

Protein Concentration: 25µg size is bottled at 0.2mg/mL concentration. 100 µg size is supplied at a lot-specific concentration.

Storage and Handling: Briefly centrifuge the vial upon receipt. An unopened vial can be stored at 4°C for up to 2 weeks, or at -20°C or below for up to six months. The protein may be further diluted to 0.1 mg/mL using 0.22 µm-filtered PBS buffer (pH 7.4). For long-term storage, the diluted stock solution should be aliquoted and stored at ≤ -70°C to minimize freeze-thaw cycles. If additional dilution is required, carrier proteins such as FBS or BSA should be added to maintain protein stability.

Image 4: 807901_807902_4.PNG

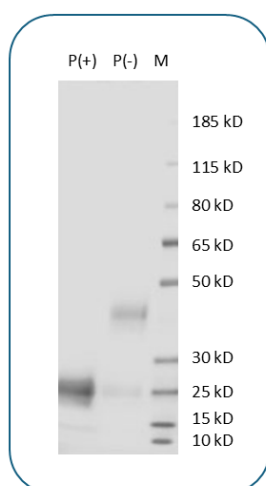
Image 4 Description: Streptavidin is coated at 2 µg/mL (200 ng/well). Biotinylated Human B7-2 (C-Fc-Avi) is captured on the streptavidin-coated plate at the same concentration. Human CTLA-4 (C-His) binds to the immobilized Biotinylated Human B7-2 in a dose-dependent manner, with an ED50 in the range of 0.2–2 ng/mL.

Background Information

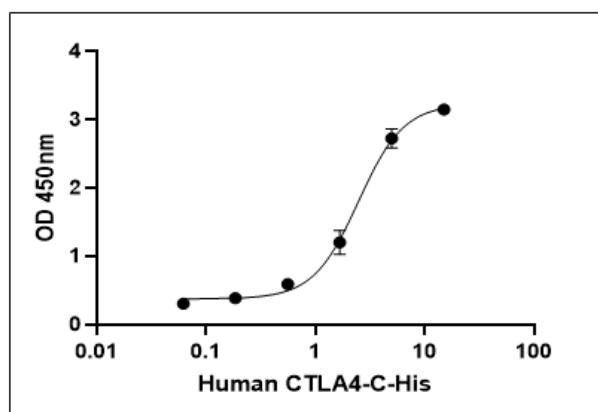
Cytotoxic T-lymphocyte-associated protein 4 (CTLA-4), also known as CD152, is an immune checkpoint receptor found on T cells. It shares 30% homology with CD28 and binds to the same ligands, B7.1/CD80 and B7.2/CD86, but with higher affinity. After T-cell activation, increased CTLA-4 expression leads to immune suppression by binding to CD80/CD86, inhibiting further T-cell activation through a process called trans-endocytosis. CTLA-4 is crucial for immune regulation and tolerance,

especially on regulatory T cells (Tregs). Soluble CTLA-4 (sCTLA-4) further enhances Treg function and is linked to autoimmune diseases like type 1 diabetes. Additionally, CTLA-4 plays a role in chronic lymphocytic leukemia (CLL) progression. Due to its immune-modulatory role, CTLA-4 is targeted in cancer therapy. Ipilimumab, a monoclonal antibody that blocks CTLA-4, is approved for melanoma and is being explored for other cancers.

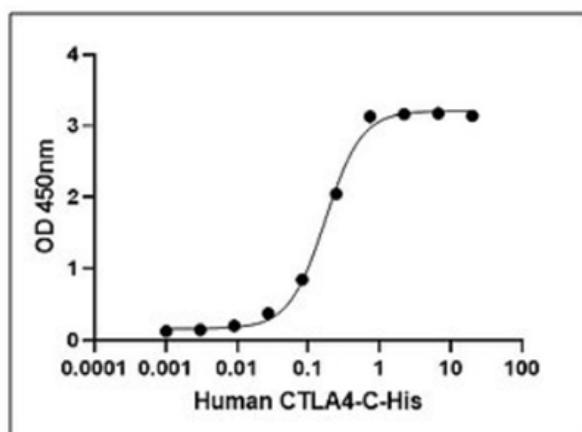
Product Data



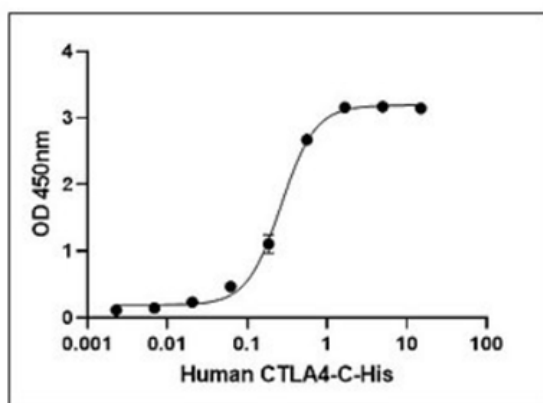
Human CTLA4 Protein (C-His) on SDS-PAGE under reducing condition (P+) and non-reducing condition (P-). The gel was stained for 1 hour with BlinkBlue (catalog 700102). The purity of this protein appears to be greater than 90% under non-reducing conditions.



Human B7-1 with Fc tag is coated at 2ug/mL (200ng/well). Human CTLA4 (C-His) can bind B7-1 in dose-dependent manner with the ED50 of 2-10 ng/mL



Streptavidin is coated at 2 µg/mL (200 ng/well). Biotinylated Human B7-1 (C-Fc-Avi) is captured on the streptavidin-coated plate at the same concentration. Human CTLA-4 (C-His) binds to the immobilized Biotinylated Human B7-1 in a dose-dependent manner, with an ED50 in the range of 0.2–2 ng/mL.



Streptavidin is coated at 2 µg/mL (200 ng/well). Biotinylated Human B7-2 (C-Fc-Avi) is captured on the streptavidin-coated plate at the same concentration. Human CTLA-4 (C-His) binds to the immobilized Biotinylated Human B7-2 in a dose-dependent manner, with an ED50 in the range of 0.2–2 ng/mL.