

## Technical Data Sheet

### Biotin Human B7-1 (CD80) Protein (C-Fc-Avi)

**Catalog Number:** 816903, 816904

**Size:** 25 ug, 100 ug

**Target Name:** CD80, B7-1, B7, BB1

**Regulatory Status:** RUO

#### Product Details

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**Application:** ELISA, BLI

**Format:** Liquid, Biotinylated

**Expression Host:** CHO

**Species:** Human

**Sources:** Recombinant Human B7-1 (CD80) (Val35-Asn242) with C-terminus Fc-Avi-tag is expressed in CHO cell. This protein was site-specifically labeled with Biotin by BirA ligase.

**Accession Number:** Q68D85

**Molecular Weight:** The protein has a predicted molecular weight of 52.2 kDa. Under DTT-reducing conditions, it migrates at approximately 65 kDa on SDS-PAGE.

**Affinity Tag:** C-Fc-Avi

**Purity:** >95% 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.

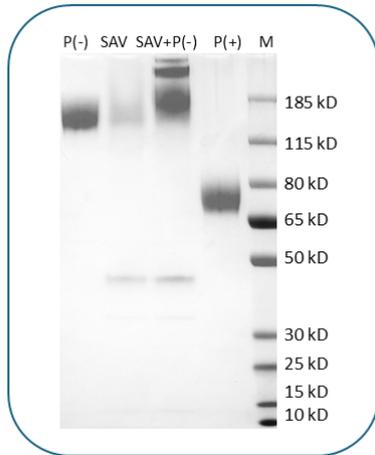
#### Background Information

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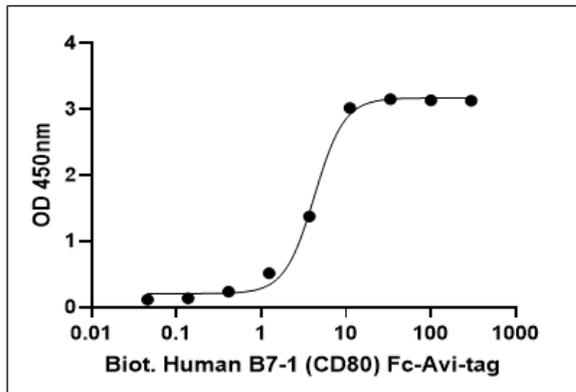
B7-1, also known as CD80, is a cell surface glycoprotein in the immunoglobulin superfamily, expressed on activated B cells, macrophages, and dendritic cells. It interacts with the costimulatory receptors CD28 and CTLA-4 on T cells, playing a pivotal role in regulating T cell activation, tolerance, cytokine production, and the generation of cytotoxic T lymphocytes. Through its interactions with CD28 and CTLA-4, CD80 is involved in both enhancing and inhibiting immune responses, thereby maintaining immune balance. This B7/CD28/CTLA-4 pathway is crucial for controlling immune function and is considered a promising target for therapeutic interventions in autoimmune diseases and cancer.

**Product Data**

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Human B7-1 (CD80) (C-Fc-Avi) was biotinylated in vitro using BirA ligase. SDS-PAGE analysis under reducing (P+) and non-reducing (P-) conditions shows the protein has a purity greater than 95%. A gel shift assay using co-incubation with streptavidin indicates that the biotinylation efficiency of Human CD80 protein exceeds 90%.



Human CTLA4 (C-Fc) is coated at 2ug/mL (200 ng/well). Biotinylated Human B7-1 (CD80) (C-Fc-Avi) can bind human CTLA-4 in the dose dependent manner with ED50 in the range of 2-10ng/mL.