

Recombinant Human CD80 Protein

For Research Use Only

1. Basic Product Information

Catalog No.: REP50163

Size: 10ug, 100ug

Protein Name: T-lymphocyte activation antigen CD80 (Activation B7-1 antigen) (BB1) (CTLA-4 counter-receptor B7.1) (B7) (CD antigen CD80)

Synonym: CD80, CD28LG, CD28LG1, LAB7

UniProt ID: P33681

UniProt Link: www.uniprot.org/uniprotkb/P33681/entry

Species Source: Human

Expression System: HEK293T eukaryotic cell expression system Sequence

Length: 288 AA

Molecular Weight: 33 KD

Protein Tag: C-terminal His6

2. Amino Acid Sequence

MGHTRRQGTSPSKCPYLNFFQLLVLAGLSHFCSGVIHVTKEVKEVATLSCGHNVSVVEELAQTRIYWQ
KEKKMVLTMMSGDMNIWPEYKNRTIFDITNNLSIVILALRPSDEGTYESVVLKYEKDAFKREHLAEVTL
SVKADFPTPSISDFEIPTSNIRRIICSTSGGFPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLD
NMTTNHSMCLIKYGHRLRVNQTFNWNTTKQEHFPDNLPSWAITLISVNGIFVICCLTYCFAPRCRER
RRNERLRRESVRPV

3. Buffer Composition

Liquid format: PBS-based buffer containing 50% glycerol. Glycerol concentration can be customized upon customer request; please state special requirements when placing your order.

Lyophilized format: Buffer before lyophilization is PBS supplemented with 6% trehalose.

4. Storage Conditions

Upon receipt, store the product at -20 °C or -80 °C. Aliquot the product for on-demand use to preserve protein activity and prevent denaturation and inactivation caused by repeated freeze-thaw cycles.

5. Product Description

This product is recombinant T-lymphocyte activation antigen CD80 (Activation B7-1 antigen) (BB1) (CTLA-4 counter-receptor B7.1) (B7) (CD antigen CD80) produced using the HEK293T eukaryotic cell expression system. It is suitable for in-vitro functional assays, protein-protein interaction studies, antibody preparation and other biomedical research applications.

Protein Function: Costimulatory molecule that belongs to the immunoglobulin superfamily that plays an important role in T-lymphocyte activation (PubMed:38467718). Acts as the primary auxiliary signal augmenting the MHC/TCR signal in naive T-cells by acting as a ligand for the CD28 receptor which is constitutively expressed on the cell surface of T-cells (PubMed:12196291). In turn, activates different signaling pathways such as NF-kappa-B or MAPK leading to the production of different cytokines (PubMed:10438913). Also acts as an inhibitor of T-cell activation by acting as a ligand for CTLA4, a decoy receptor, thereby blocking CD28-mediated T-cell priming (PubMed:10583602, PubMed:11279502). In addition, CD28/CD80 costimulatory signal stimulates glucose metabolism and ATP synthesis of T-cells by activating the PI3K/Akt signaling pathway (PubMed:12121659). Also acts as a regulator of PDL1/PDCD1 interactions to limit excess engagement of PDL1 and its inhibitory role in immune responses (PubMed:36727298). Expressed on B-cells, plays a critical role in regulating interactions between B-cells and T-cells in both early and late germinal center responses, which are crucial for the generation of effective humoral immune responses (By similarity).; (Microbial infection) Acts as a receptor for adenovirus subgroup B.

Subcellular Localization: Cell membrane ; Single-pass type I membrane protein.

6. Notes

- Avoid repeated freeze-thaw cycles to maintain protein stability and biological activity.
- Please specify special buffer- composition requirements at the time of order placement.
- For research use only. Not intended for clinical diagnosis, therapeutic use or commercial manufacturing.