

## Active Recombinant Human CD80 Protein, Flag&His tagged

**Cat. No.** CD80-60H    **Lot. No.** (See product label)

### SPECIFICATION

|                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
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| <b>Product Overview</b> | CD80 dimer protein contains a CD80 extracellular domain (UniProt# P33681) fused with a proprietary dimer motif followed by a tandem Flag-His tag at the C-terminus.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Species</b>          | Human                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Source</b>           | HEK293T                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>ProteinLength</b>    | 135-242 aa                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Description</b>      | <p>Human CD80 (Cluster of differentiation 80) is a type I transmembrane glycoprotein in the immunoglobulin superfamily and is 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 with 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</p> |

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|                              |                                                                                                                                                                                                                                                                                                                                |
|------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                              | dimer conformation can be crucial for therapeutic discovery.                                                                                                                                                                                                                                                                   |
| <b>Molecular Mass</b>        | 66 kDa                                                                                                                                                                                                                                                                                                                         |
| <b>Homodimer/Heterodimer</b> | Homodimer                                                                                                                                                                                                                                                                                                                      |
| <b>Purity</b>                | Greater than 90% dimer form as determined by SDS-PAGE under non-reducing condition                                                                                                                                                                                                                                             |
| <b>Application</b>           | Verified Applications: ELISA for CD80-specific antibody and CTLA-4 or CD28 ligand protein binding assays. Suggested Applications ELISA for CD80-specific antibody and CTLA-4 or CD28 ligand protein binding assays. SPR & BLI for CD80-specific antibody: and CTLA-4 or CD28 protein binding assays. Animal immunization, RUO. |
| <b>Storage</b>               | At -80 centigrade                                                                                                                                                                                                                                                                                                              |
| <b>Storage Buffer</b>        | 0.22µm filtered PBS, pH 7.4                                                                                                                                                                                                                                                                                                    |
| <b>Shipping</b>              | Frozen Dry Ice                                                                                                                                                                                                                                                                                                                 |

## GENE INFORMATION

|                        |                                                                                                                                                  |
|------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Gene ID</b>         | 941                                                                                                                                              |
| <b>Gene Name</b>       | CD80 CD80 molecule [Homo sapiens (human)]                                                                                                        |
| <b>Official Symbol</b> | 941                                                                                                                                              |
| <b>Synonyms</b>        | CD80; CD80 molecule; CD28LG, CD28LG1, CD80 antigen (CD28 antigen ligand 1, B7 1 antigen), CD80 molecule; T-lymphocyte activation antigen CD80; B |

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|                                     |                                                                                                                                                                                                                                                                                                        |
|-------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                     | lymphocyte activation antigen B7; B7 1; B7.1; activation B7-1 antigen; costimulatory factor CD80; CTLA-4 counter-receptor B7.1; B-lymphocyte activation antigen B7; costimulatory molecule variant IgV-CD80; CD80 antigen (CD28 antigen ligand 1, B7-1 antigen); B7; BB1; B7-1; LAB7; CD28LG; CD28LG1; |
| <b>mRNA Refseq</b>                  | <a href="#">NM_005191</a>                                                                                                                                                                                                                                                                              |
| <b>Official Symbol 2</b>            | <a href="#">CD80</a>                                                                                                                                                                                                                                                                                   |
| <b>Gene ID 2</b>                    | <a href="#">941</a>                                                                                                                                                                                                                                                                                    |
| <b>Gene Name 2</b>                  | <a href="#">CD80 CD80 molecule [Homo sapiens (human)]</a>                                                                                                                                                                                                                                              |
| <b>mRNA Refseq 2</b>                | <a href="#">NM_005191</a>                                                                                                                                                                                                                                                                              |
| <b>Protein Refseq 2</b>             | <a href="#">NP_005182</a>                                                                                                                                                                                                                                                                              |
| <b>MIM 2</b>                        | <a href="#">112203</a>                                                                                                                                                                                                                                                                                 |
| <b>UniProt ID 2</b>                 | <a href="#">P33681</a>                                                                                                                                                                                                                                                                                 |
| <b>Bioactivity-Antibody Binding</b> | Immobilized CD80-Flag-His dimer protein at 2 µg/mL (100 µL/well) can bind anti-human CD80 monoclonal antibody with half maximal effective concentration (EC50) range of 4.9-19.6 ng/mL (QC tested).                                                                                                    |
| <b>Bioactivity-Ligand Binding</b>   | Immobilized human CTLA-4 dimer protein, His Tag at 2 µg/mL (100 µL/well) can bind human CD80-Flag-His dimer protein, with half maximal effective concentration (EC50) range of 0.4-1.5 ng/mL (QC tested).                                                                                              |

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**SDS-PAGE**

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

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