Recombinant Human NCR3LG1 Protein, His tagged

Cat. No. NCR3LG1-242H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant Human B7-1 (CD80) (Val35-Asn242) with C-terminus His-tag is expressed in CHO cell.
Species	Human
Source	CHO
Conjugation/Label	35-242 aa
Description	CD80, also known as B7-1, is a transmembrane glycoprotein that functions as a critical costimulatory molecule in the adaptive immune system. CD80 is primarily expressed on antigen-presenting cells (APCs) such as dendritic cells, macrophages, and activated B cells, where it plays an essential role in T cell activation and immune response regulation. The protein provides the necessary "second signal" for T cell activation by binding to receptors on T cells, complementing the primary signal delivered through the T cell receptor (TCR) recognition of peptide-MHC complexes. CD80 is a member of the B7 family of costimulatory molecules and works in concert with its related molecule CD86 (B7-2) to regulate immune responses, though the two proteins have distinct expression patterns and kinetics. Structurally, CD80 is a type I transmembrane protein of approximately 60 kDa belonging to the immunoglobulin superfamily. The extracellular region contains two immunoglobulin-like domains: an N-terminal IgV-like domain and a membrane-proximal IgC-like domain that mediate receptor binding. The protein also features a single transmembrane domain and a short cytoplasmic tail. The IgV domain is primarily responsible for ligand interactions,

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while the overall structure allows CD80 to form homodimers on the cell surface, which may enhance its avidity for receptors and strengthen costimulatory signaling. The extracellular domains adopt a characteristic immunoglobulin fold that enables specific recognition by its cognate receptors. CD80 has two primary ligands with opposing functions: CD28 and CTLA-4 (CD152), both expressed on T cells. Binding to CD28, which is constitutively expressed on naive and activated T cells, delivers positive costimulatory signals that enhance T cell proliferation, survival, cytokine production, and effector function development. This CD80-CD28 interaction is essential for productive T cell responses and immunity. Conversely, binding to CTLA-4, an inhibitory receptor upregulated on activated T cells and constitutively expressed on regulatory T cells, delivers negative signals that suppress T cell activation and maintain immune tolerance. CTLA-4 binds CD80 with higher affinity than CD28, allowing it to outcompete CD28 and dampen immune responses. Additionally, CD80 can interact with PD-L1 (CD274), adding another layer of immune regulation. In disease contexts, dysregulation of CD80 expression or function contributes to various pathological conditions. Insufficient CD80-mediated costimulation can lead to T cell anergy and impaired immune responses against infections and tumors. Conversely, excessive or inappropriate CD80 expression contributes to autoimmune diseases and transplant rejection by promoting unwanted T cell activation. In cancer, tumor cells and immunosuppressive cells in the tumor microenvironment may manipulate CD80 expression to evade immune surveillance. Therapeutically, the CD80-CD28-CTLA-4 axis has become a cornerstone of cancer immunotherapy. CTLA-4 blocking antibodies such as ipilimumab prevent CTLA-4 from binding to CD80/CD86, thereby enhancing CD28 costimulation and boosting antitumor T cell responses. This approach has achieved remarkable clinical success in melanoma and other cancers. Additionally, CD80-Ig fusion proteins and other CD80-based therapeutics are being explored for modulating immune responses in autoimmune diseases, transplantation, and cancer, establishing CD80 as a pivotal target in immune modulation and therapeutic intervention.

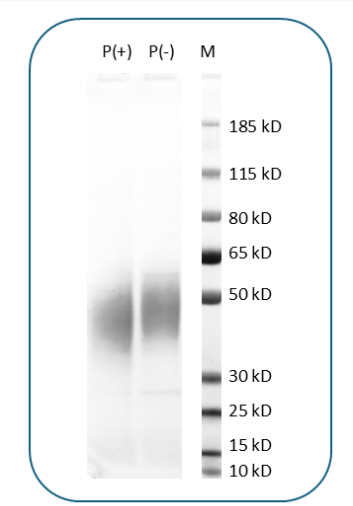
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Form	Liquid, 1×PBS buffer, pH7.4, 0.22 μm filtered
Molecular Mass	The protein has a predicted molecular weight of 25.5 kDa. Under DTT-reducing conditions, it migrates at approximately 45 kDa on SDS-PAGE.
Purity	>95% based on SDS-PAGE under reducing condition
Applications	ELISA, BLI
Storage	Briefly centrifuge the vial upon receipt. An unopened vial can be stored at 4 centigrade for up to 2 weeks, or at -20 centigrade 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 centigrade to minimize freeze-thaw cycles. If additional dilution is required, carrier proteins such as FBS or BSA should be added to maintain protein stability.
Concentration	25 μg size is bottled at 0.2 mg/mL concentration. 100 μg size is supplied at a lot-specific concentration.

GENE INFORMATION

Gene Name	NCR3LG1 natural killer cell cytotoxicity receptor 3 ligand 1 [Homo sapiens (human)]
Official Symbol	NCR3LG1
Synonyms	NCR3LG1; natural killer cell cytotoxicity receptor 3 ligand 1; B7H6; B7-H6; DKFZp686O24166; natural cytotoxicity triggering receptor 3 ligand 1; B7 homolog 6; putative Ig-like domain-containing protein DKFZp686O24166/DKFZp686I21167
Gene ID	374383

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mRNA Refseq	NM_001202439
Protein Refseq	NP_001189368
MIM	613714
UniProt ID	Q68D85
SDS-PAGE	 Human B7-1 (CD80) protein (C-His) on SDS-PAGE under reducing condition (P+) and non-reducing condition (P-). The gel was stained for 1 hour with BlinkBlue.rThe purity of this protein appears to be greater than 90% based on reducing conditions.

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