



**LD Biopharma, Inc.**  
7384 Trade Street, Suite B  
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## - PRODUCT DATA SHEET -

**Name of Product:** Recombinant Human CD84 Protein  
**Catalog Number:** HRP-2644  
**Manufacturer:** LD Biopharma, Inc.

### Introduction

The protein encoded by human SLAM family member 5 (also named as CD84) gene is a self-ligand receptor of the signaling lymphocytic activation molecule (SLAM) family. SLAM receptors triggered by homo- or heterotypic cell-cell interactions are modulating the activation and differentiation of a wide variety of immune cells and thus are involved in the regulation and interconnection of both innate and adaptive immune response. Activities are controlled by presence or absence of small cytoplasmic adapter proteins, SH2D1A/SAP and/or SH2D1B/EAT-2. CD84 can mediate natural killer (NK) cell cytotoxicity dependent on SH2D1A and SH2D1B. It increases proliferative responses of activated T-cells and SH2D1A/SAP does not seem to be required for this process. Homophilic interactions enhance interferon gamma/IFNG secretion in lymphocytes and induce platelet stimulation via a SH2D1A-dependent pathway. May serve as a marker for hematopoietic progenitor cells. CD84 is required for a prolonged T-cell / B-cell contact, optimal T follicular helper function, and germinal center formation. In germinal centers, it might be involved in maintaining B-cell tolerance and in preventing autoimmunity. In mast cells, it negatively regulates high affinity immunoglobulin epsilon receptor signaling; independent of SH2D1A and SH2D1B but implicating FES and PTPN6/SHP-1. In macrophages enhances LPS-induced MAPK phosphorylation and NF- $\kappa$ B activation and modulates LPS-induced cytokine secretion; involving ITSM 2. CD84 positively regulates macro-autophagy in primary dendritic cells via stabilization of IRF8; it inhibits TRIM21-mediated proteasomal degradation of IRF8

Full-length extracellular domain of human CD84 cDNA ( 22 – 225aa, Isoform-I ) was constructed with codon optimization gene synthesis and expressed with a human alpha Fetal Protein N-terminal (AFPn) -His-TEV cleavage site Tag (217aa) fusion at its N-terminal in E.coli as inclusion bodies. The final product was refolded using our unique “temperature shift inclusion body refolding” technology and chromatographically purified.

**Gene Symbol:** CD84 ( SLAMF5; Hly9-beta )  
**Accession Number:** NP\_003865  
**Species:** Human  
**Size:** 40  $\mu$ g / Vial



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**Composition:** 0.4 mg/ml, sterile-filtered, in 20 mM pH 8.0 Tris-HCl Buffer, with proprietary formulation of NaCl, KCl, EDTA, Sucrose, DTT and others.

**Storage:** In Liquid. Keep at -80°C for long term storage. Product is stable at 4 °C for at least 30 days.

## Key References

Agod Z, et al., *Signaling Lymphocyte Activation Molecule Family 5 Enhances Autophagy and Fine-Tunes Cytokine Response in Monocyte-Derived Dendritic Cells via Stabilization of Interferon Regulatory Factor 8*. Front Immunol 9, 62 (2018)

Marom A, et al., *CD84 mediates CLL-microenvironment interactions*. Oncogene 36 (5), 628-638 (2017)

Reindel R, et al., *CD84 is markedly up-regulated in Kawasaki disease arteriopathy*. Clin. Exp. Immunol. 177 (1), 203-211 (2014)

## Applications

1. May be used for in vitro CD84 mediated cell-cell interaction regulation for human T cells study in vitro with this recombinant CD84 protein either as soluble factor or as coating matrix protein.
2. May be used for CD84 protein-protein interaction assay.
3. Potential Therapeutic / diagnostic protein, which may be used for manipulating human T cells activities in vivo (such as anti-CD84 antibody) for various diseases.
4. As native human CD84 immunogen for specific antibody production.

## Quality Control

Purity: > 90% by SDS-PAGE.

**Recombinant Human AFPn- CD84 Fusion Protein Sequence ( 47.5 kD )**  
MTLHRNEYGIASILDSYQCTAEISLADLATIFFAQFVQEATYKEVSKMVKDALTAIEKPTGDEQ  
SSGCLLENQLPAFLLEELCHEKEILEKYGHSDCCSQSEEGRHNCFLAHKKPTPASIPLFQVPEPVT  
SCEAYEEDRETFMNFYIYEIARRHPFLYAPTILLWAARYDKIIPSCCKAENAVECFQTKAATVT  
KELRESSGGSHHHHHGSENL~~YFQGE~~KDSEIFTVNGILGESVTFPVNIQEPRQVKIIAWTSKT  
SVAYVTPGDSETAPVVTVTHRNYERIHALGPNYNLVISDLRMEDAGDYKADINTQADPYTTTK  
RYNLQIYRRLGKPKITQSLMASVNSTCNVTLTCSVEKEEKNVTYNWSPLGEEGNVLQIFQTPED  
QELTYTCTAQNPVSNNSDSISARQLCADIAMGFRTHHTG