



LD Biopharma, Inc.
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- PRODUCT DATA SHEET -

Name of Product: Recombinant Human CD300c Protein
Catalog Number: hRP-1341
Manufacturer: LD Biopharma, Inc.

Introduction

Human CMRF35-like molecular 6 (CMRF-35, CD300c) is an immunomodulatory / Type-I transmembrane receptor that belongs to the CD300 family of activating/inhibitory receptors. CD300c is expressed on cells of both myeloid and lymphoid lineages and the ligand is not known. Recent data indicated that CD300c ligation is capable of inhibiting the eosinophil response to eotaxin and IL-5, NK cell mediated cytotoxicity, B cell receptor (BCR) mediated Ca²⁺ mobilization and NFAT translocation, FcεRI mediated activation of mast cells and FcγRIIa mediated Ca²⁺ flux and reactive oxygen species (ROS) production in neutrophils. *In vivo* studies have also shown the inhibitory potential of CD300c, for instance, treatment of mice with a bi-specific antibody linking CCR3 to CD300a reversed remodeling and airway inflammation in a model of asthma. CD300c, along with three other genes, has been identified as a blood biomarker that can be used for the differentiation of patients with ulcerative colitis from patients with Crohn's disease and noninflammatory diarrhea.

Full-length extracellular domain of human CD300c cDNA (21 – 183 aa, derived from BC022279) was constructed with codon optimization and expressed with a small T7-His-TEV cleavage site Tag (29aa) fusion at its N-terminal. This protein is expressed 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: CD300c (CLM-6; CMRF-35; CMRF-35A)
Accession Number: NP_006669
Species: Human
Size: 40 µg / Vial
Composition: 0.4 mg/ml, sterile-filtered, in 20 mM pH 8.0 Tris-HCl Buffer, with proprietary formulation of NaCl, KCl, EDTA, arginine, DTT and Glycerol.
Storage: In Liquid. Keep at -80°C for long term storage. Product is stable at 4 °C for at least 30 days.



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Key References

Takahashi M, et al., *Human CD300C delivers an Fc receptor-gamma-dependent activating signal in mast cells and monocytes and differs from CD300A in ligand recognition*. J. Biol. Chem. 288 (11), 7662-7675 (2013)

Simhadri VR, et al., *CD300c is an activating receptor expressed on human monocytes*. J. Innate Immun 5 (4), 389-400 (2013)

Simhadri VR, et al., *Differential expression of CD300a/c on human TH1 and TH17 cells*. BMC Immunol. 12, 62 (2011)

Clark GJ, et al., *The CD300 molecules regulate monocyte and dendritic cell functions*. Immunobiology 214 (9-10), 730-736 (2009)

Applications

1. May be used for in vitro non-glycosylated CD300c protein mediated TH1 and TH17 cell function regulation study with this protein as either coating matrix protein or soluble factor.
2. May be used for CD300c protein-protein interaction assay.
3. As enzymatic substrate for various proteases.
4. As potential biomarker protein for differentiating patients with ulcerative colitis in Crohn's disease from non-inflammatory diarrhea.
5. As antigen for specific antibody production.

Quality Control

Purity: > 90% by SDS-PAGE.

Recombinant Protein Sequence

MASMTGGQQMGRGHHHHHHENLYFQGGEFGYFPLSHPMTVAGPVGGSLSVQCRYEKEHRTL NKF
WCRPPQILRCDKIVETKGSAGKRNGRVSIRDSPANLSFTVTVTLLENLTEEDAGTYWCGVDTPWLRD
FHDPIVEVEVSVFPAGTTTASSPQSSMGTSGPPTKLPVHTWPSVTRKDSPEPSPHPGSLFSNVR