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- PRODUCT DATA SHEET -

Name of Product: Recombinant Human CD40 (Extracellular) Protein
Catalog Number: hRP-0356
Manufacturer: LD Biopharma, Inc.

Introduction

Human CD40 (TNRRSF5: tumor necrosis factor receptor superfamily member 5, isoform 2) is a 203 amino acid cell surface protein. This protein belongs to a member of the TNF-receptor superfamily. This receptor has been found to be essential in mediating a broad variety of immune and inflammatory responses including T cell-dependent immunoglobulin class switching, memory B cell development, and germinal center formation. AT-hook transcription factor AKNA is reported to coordinately regulate the expression of this receptor and its ligand, which may be important for homotypic cell interactions. Adaptor protein TNFR2 interacts with this receptor and serves as a mediator of the signal transduction. The interaction of this receptor and its ligand is found to be necessary for amyloid-beta-induced microglial activation, and thus is thought to be an early event in Alzheimer disease pathogenesis. Two alternatively spliced transcript variants of this gene encoding distinct isoforms have been reported.

Full-length extracellular domain of human CD40 gene (Isoform-II, 21-193 aa) was constructed with 31 N-terminal T7/His tag and expressed in E.coli as inclusion bodies. The final product was refolded using our unique “temperature shift inclusion body refolding” technology and chromatographically purified. Coating this recombinant protein at 1-10 ug / well (6 well plate) in T cell specific medium can be used for human T and B cell / receptor interaction study in vitro.

Gene Symbol: CD40
Accession Number: NP_690593
Species: Human
Size: 100 µg / Vial
Composition: 1.0 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 -20°C for long term storage. Product is stable at 4 °C for at least 30 days.



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Key References

Clark, E.A. et al. *Activation of human B cells mediated through two distinct cell surface differentiation antigens, Bp35 and Bp50* PNAS 83 (12), 4494-4498 (1986).

Foy, T.M., et al. *gp39-CD40 interactions are essential for germinal center formation and the development of B cell memory* J. Exp. Med. 180 (1), 157-163 (1994).

Narayanan, P., et al. *A composite MyD88/CD40 switch synergistically activates mouse and human dendritic cells for enhanced antitumor efficacy*. J. Clin. Invest. 121 (4), 1524-1534 (2011).

Applications

1. Protein can be used as coating matrix protein for study human B and T cell / Receptor interaction in vitro.
2. As highly purified protein, may be provided as culture matrix protein for human B cells culture in vitro.

Quality Control

1. Purity: > 90% by SDS-PAGE.
2. Functional Test: Not tested yet.

Recombinant Protein Sequence

MASMTGGQQMGRGHHHHHGNLYFQGGFELEFPPTACREKQYLINSQCCSLCQPGQKLVSDCTE
FTETECLPCGESEFLDTWNRETHCHQHXYCDPNLGLRVQKGTSETDTICTCEEGWHCTSEACE
SCVLHRSCSPGFVGVKQIATGVSDTICEPCPVGFFSNVSSAFEKCHPWTRSPGSAESPGGDPHHL
RDPVCHPLGAGL