



LD Biopharma, Inc.
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- PRODUCT DATA SHEET -

Name of Product: Recombinant Human CD4 Protein
Catalog Number: hRP-0371
Manufacturer: LD Biopharma, Inc.

Introduction

Human CD4 encodes a membrane glycoprotein of T lymphocytes that interacts with major histocompatibility complex class II antigens and is also a receptor for the human immunodeficiency virus. This gene is expressed not only in T lymphocytes, but also in B cells, macrophages, and granulocytes. It is also expressed in specific regions of the brain. The protein functions to initiate or augment the early phase of T-cell activation, and may function as an important mediator of indirect neuronal damage in infectious and immune-mediated diseases of the central nervous system. Multiple alternatively spliced transcript variants encoding different isoforms have been identified in this gene. Recombinant CD4 protein may service as coating matrix protein for studying of T cells functions in vitro.

Full-length of human CD4 extracellular domain cDNA (isoform 1) (26 - 396 aa) was constructed with 29 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 cell / receptor interaction study in vitro.

Gene Symbol: CD4
Accession Number: NP_000607
Species: Human
Size: 20 µg / Vial
Composition: 0.2 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

Crise, B. et al. *Identification of palmitoylation sites on CD4, the human immunodeficiency virus receptor*. J. Biol. Chem. 267 (19), 13593-13597 (1992)

Pinchuk, I.V., et al. *Human colonic myofibroblasts promote expansion of CD4+ CD25high Foxp3+ regulatory T cells*. Gastroenterology 140 (7), 2019-2030 (2011)

Applications

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

Quality Control

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

Recombinant Protein Sequence

MASMTGGQQMGRGHHHHHGNLYFQGGEFKKVVLGKKGDTVELTCTASQKKS IQFHWKNSNQIK
ILGNQGSFLT~~KGPSKLNDRADSRRLWDQGNFPLIIK~~NLKIEDSDTYICEVEDQKEEVQLLVFG
LTANS~~DTHLLQGQSLTTL~~LESPPGSSPSVQCRSPRGKNIQGGK~~TLSVS~~QLELQDSGTWTCTVLQ
NQKKVEFKIDIVVLA~~FQKASSIVYKKEGEQVEFS~~FPLAFTVEKLTGSGELWWQAERASSKSWI
TFDLKNKEVSVKRV~~TQDPKLQMGK~~LPLHLTLPQALPQYAGSGNLT~~L~~ALEAKTGK~~LH~~QEVNLVV
MRATQLQKNLTCEVWGPTSPK~~LMLSLK~~LENKEAKVSKREKAVVVLNPEAGMWQC~~LL~~SDSGQVLL
ESNIKVLPTWSTPVQP