



LD Biopharma, Inc.
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- PRODUCT DATA SHEET -

Name of Product: Recombinant Human CD275 Protein
Catalog Number: hRP-0560
Manufacturer: LD Biopharma, Inc.

Introduction

The B7-CD28 family of costimulatory molecules modulate T cell receptor signals and play essential roles in the control of T cell-mediated immune responses. CD28, the most extensively studied co-signaling receptor, accepts a co-stimulatory signal from B7-1 (CD80) or B7-2 (CD86, B70) and promotes activation of naive T cells in the presence of a T cell receptor signal. On the other hand, CTLA-4, a CD28 homolog expressed on activated T cells, serves as a checkpoint to attenuate T cell responses upon ligation of B7-1 and/or B7-2. Inducible Co-stimulator (ICOS), another CD28 homolog in the same gene cluster with CD28 and CTLA4, is expressed on activated T cells and co-stimulates T cell activation upon binding of a distinct ligand CD275 (B7-H2). Recent data demonstrated that CD275, best known as the ligand of Inducible Co-stimulator, was also a ligand for CD28 and CTLA-4 in human. Similar to B7-1 and B7-2, CD275 co-stimulation via CD28 induced survival factor Bcl-xL, downregulated cell cycle inhibitor p27kip1 and triggered signaling cascade of ERK and AKT kinases-dependent pathways. Understanding this pathway is very important in the development of therapeutic interventions against human diseases.

Full-length recombinant human CD275 extracellular domain cDNA (19 - 256 aa, derived from BC064637) was constructed with codon optimization and expressed with a small T7-His-TEV cleavage site Tag (29aa) fusion at its N-terminal 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.

Gene Symbol: CD275 (ICOSG; B7-H2; B7RP-1; GL50)
Accession Number: NP_056074.1
Species: Human
Size: 50 µg / Vial



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Composition: 0.5 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.

Key References

Yao,S., et al., *B7-h2 is a costimulatory ligand for CD28 in human*. Immunity 34 (5), 729-740 (2011)

Yoshinaga,S.K., et al., *Characterization of a new human B7-related protein: B7RP-1 is the ligand to the co-stimulatory protein ICOS*. Int. Immunol. 12 (10), 1439-1447 (2000)

Ling,V., et al., *Differential expression of inducible costimulator-ligand splice variants: lymphoid regulation of mouse GL50-B and human GL50 molecules*. J. Immunol. 166 (12), 7300-7308 (2001)

Martin-Orozco,N., et al., *Melanoma cells express ICOS ligand to promote the activation and expansion of T-regulatory cells*. Cancer Res. 70 (23), 9581-9590 (2010)

Applications

1. May be used for in vitro human T cell-mediated immune responses or lymphoid differentiation regulation study coating with this protein.
2. May be used for protein-protein interaction assay.
3. As antigen for specific antibody production.

Quality Control

1. Purity: > 90% by SDS-PAGE.

Recombinant Protein Sequence

MASMTGGQQMGRGHHHHHGNLYFQGGEDTQEKEVRAMVGSDELSCACPEGSRFDLNDVYVYW
QTSESKTVVTYHQPQNSLENVDSRYRNRALMSPAGMLRGDFSLRLEFNVTQDEQKFHCLVLSQ
SLGFQEVLSVEVTLHVAANFSVPVVSAPHSPSQDELTF'TCTSINGYPRPNVYWINKTDNSLLDQ
ALQNDTVFLNMRGLYDVVSVLRRIARTPSVNI GCCIENVLLQQNLTVGSQTGNDIGERDKITENP
VSTGEKNAAT