



**LD Biopharma, Inc.**  
9924 Mesa Rim Road Suite B  
San Diego, CA 92121  
Tel: 858-876-8266  
<http://www.ldbiopharma.com>

## - PRODUCT DATA SHEET -

**Name of Product:** Recombinant Human CD274 Protein  
**Catalog Number:** hRP-0489  
**Manufacturer:** LD Biopharma, Inc.

### Introduction

Human programmed cell death 1 ligand 1 (PD-L1, CD274) is a cell membrane protein, which involved in the costimulatory signal, essential for T-cell proliferation and IFNG production in a PDCD1-independent manner. Interaction with PDCD1 inhibits T-cell proliferation by blocking cell cycle progression and cytokine production. Recent data indicated that cancer cells that express PDL1 promote tumor progression through inhibition of PD1-expressing immune effectors. In addition, PDL1 modulates cell-mediated immunity in the infectious disease setting.

Recombinant human CD274 extracellular domain cDNA (19-238 aa, derived from BC074984) 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. Coating this recombinant protein at 5-10 ug / well (6 well plate) in a specific culture medium may be used for human T and B cell cells activation/differentiation study in vitro.

**Gene Symbol:** CD274 (PD-L1; B7H1; PDCD1L1; PDCD1LG1)  
**Accession Number:** NP\_054862.1  
**Species:** Human  
**Size:** 100 µg / Vial  
**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 -20°C for long term storage. Product is stable at 4 °C for at least 30 days.

### Key References



**LD Biopharma, Inc.**  
9924 Mesa Rim Road Suite B  
San Diego, CA 92121  
Tel: 858-876-8266  
<http://www.ldbiopharma.com>

Shoba Amarnath et al., *The PDL1-PD1 Axis Converts Human Th1 Cells into Regulatory T Cells*. *Sci Transl Med* 3, 111ra120 (2011)

Yang, J., et al., *The novel costimulatory programmed death ligand 1/B7.1 pathway is functional in inhibiting alloimmune responses in vivo*. *J. Immunol.* 187 (3), 1113-1119 (2011)

Cao, Y., et al., *Immunoregulatory molecule B7-H1 (CD274) contributes to skin carcinogenesis*. *Cancer Res.* 71 (14), 4737-4741 (2011)

Trabattoni, D., et al., *B7-H1 is up-regulated in HIV infection and is a novel surrogate marker of disease progression*. *Blood* 101 (7), 2514-2520 (2003)

## Applications

1. Protein can be used as coating matrix protein for human T or B cell functions and differentiation regulation study in vitro.
2. As potential biomarker protein for infectious diseases and auto-immune disease diagnostic development.
3. As antigen for specific antibody production.

## Quality Control

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

## Suggested Coating Protocol

Standard coating was performed using 1ml PBS / well, which contains 5-10 ug protein / well) for incubating at 4°C overnight. After coating, remove PBS solution, the plate is ready for cell culture study.

## Recombinant Protein Sequence

MASMTGGQQMGRGHHHHHGNLYFQG<sup>^</sup>GEFFTVTPKDLVVEYGSNMTIECKFPVEKQLDLAA  
LIVYWEMEDKNI IQFVHG EEDLKVQHSSYRQRARLLKDQLSLGNAALQITDVKLQDAGVYRCMI  
SYGGADYKRITVKVNAPYNKINQRILVVDVPTSEHELTCQAEGYPKAEVIWTSSDHQVLSGKTT  
TTNSKREEKLFNVTSTLRINTTTNEIFYCTFRRLDPEENHTAELVIPELPLAHPNER