

CD274, Human, Recombinant, 0.1 mg

Catalog Number 5126

DESCRIPTION

Human CD274 (programmed cell death 1 ligand 1) is a cell membrane protein which is 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.

CHARACTERISTICS

Parameter, Testing, and Method	CD274, Human, Recombinant Catalog # 5126
Quantity	0.1 mg (100 µg/vial)
Volume	0.2 mL
Concentration	0.5 mg/mL
Purity	≥90% as measured by SDS PAGE
Formulation	Formulated in 20 mM pH 8.0 Tris-HCl Buffer, with proprietary formulation of NaCl, KCl, EDTA, L-Arginine, DTT and Glycerol.
Form	Solution
Production Type	Recombinant – <i>E. coli</i>
Storage Temperature	Keep at -20°C for long term storage. Product is stable at 4 °C for at least 30 days
Shelf Life	12 months after receipt
Sterilization Method	Filtration
Cell Attachment Activity	Passes
Sterility	No growth
Accession No.	NP_054862.1

Recombinant Sequence	MASMTGGQQMGRGHHHHHGNLYFQG^GEFF TVTVPKDLVVEYGSNMTIECKFPVEKQLDLAAL IVYWEMEDKNIIQFVHGEECLKVQHSSYRQRAR LLKDQLSLGNAALQITDVKLQDAGVYRCMISYG GADYKRITVKVNAPYNKINQRILVDPVTSEHEL TCQAEGYPKAEVIWTSSDHQVLSGKTTTTNSKR EEKLFNVTSTLRINTTTTNEIFYCTFRRLDPEENHT AELVPELPLAHPNER
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APPLICATIONS

This product is for R&D use only and is not intended for human or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

INSTRUCTIONS FOR USE

Use these recommendations as guidelines to determine the optimal coating conditions for your culture system.

1. Thaw CD274 and dilute to desired concentration using serum-free medium or PBS. The final solution should be sufficiently dilute so that the volume added covers the surface evenly.
2. Add appropriate amount of diluted material to culture surface.
3. Incubate at room temperature for approximately 1 – 2 hours.
4. Aspirate remaining material.
5. Rinse plates carefully with dH₂O– avoid scratching bottom surface of plates.
6. Plates are ready for use. They may also be stored at 2-8°C damp or air dried if sterility is maintained.

Note: Coating this recombinant protein at 5-10 µg / well (6 well plate) in a specific culture medium may be used for 1) human T and B cell cells activation/differentiation study or 2) as a potential biomarker protein for infectious diseases *in vitro* or 3) for auto-immuno disease diagnostic development.

REFERENCES

- (1) Shoba Amarnath et al., The PDL1-PD1 Axis Converts Human Th1 Cells into Regulatory T Cells. *Sci Transl Med* 3, 111ra120 (2011)
- (2) 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)

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

(4) Trabattini, 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)