



**LD Biopharma, Inc.**  
9924 Mesa Rim Road Suite B  
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<http://www.ldbiopharma.com>

## - PRODUCT DATA SHEET -

**Name of Product:** Recombinant Human CD152 Protein  
**Catalog Number:** hRP-1032  
**Manufacturer:** LD Biopharma, Inc.

### Introduction

Human CD152 ( Cytotoxic T-lymphocyte protein 4: CTLA4 ) gene is a member of the immunoglobulin superfamily and encodes a protein which transmits an inhibitory signal to T cells. The affinity of CD152 for its natural B7 family ligands, CD80 and CD86, is considerably stronger than the affinity of their cognate stimulatory co-receptor CD28. CD152 protein contains a V domain, a transmembrane domain, and a cytoplasmic tail. Alternate transcriptional splice variants, encoding different isoforms, have been characterized. The membrane-bound isoform functions as a homo-dimer interconnected by a disulfide bond, while the soluble isoform functions as a monomer. Mutations in this gene have been associated with insulin-dependent diabetes mellitus, Graves disease, Hashimoto thyroiditis, celiac disease, systemic lupus erythematosus, thyroid-associated orbitopathy, and other autoimmune diseases. Engineered fusion proteins consisting of the extracellular domain of CTLA4 and the IgG Fc region (CTLA4-Ig), inhibit T-cell-dependent antibody responses, and are used as immunosuppressive agents. They are soluble, have an enhanced affinity for B7 ligands and act as a competitive inhibitor of CD28.

Full-length human CD152 extracellular domain cDNA (36 - 161 aa, derived from BC074893) 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:** CD152 (CTLA4; CELIAC3; GRD4; GSE)  
**Accession Number:** NP\_005205  
**Species:** Human  
**Size:** 50 µg / Vial



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**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 -80°C for long term storage. Product is stable at 4 °C for at least 30 days.

## Key References

Wang,C.J., et al., *Cutting edge: cell-extrinsic immune regulation by CTLA-4 expressed on conventional T cells*. J. Immunol. 189 (3), 1118-1122 (2012)

Chuang,E., et al., *Regulation of cytotoxic T lymphocyte-associated molecule-4 by Src kinases*. J. Immunol. 162 (3), 1270-1277 (1999)

## Applications

1. May be used as coating or soluble factor for in vitro T cell activation pathway regulation study.
2. May be used for protein-protein interaction assay development.
3. As antigen for specific antibody production.

## Quality Control

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

## Recombinant Protein Sequence

MASMTGGQQMGRGHHHHHGNLYFQGGFEGKAMHVAQPAVVLASSRGIASFVCEYASPGKATEV  
RVTVLRQADSQVTEVCAATYMMGNELTFLDDSICTGTSSGNQVNLTIQGLRAMDTGLYICKVEL  
MYPPPYLGIINGTQIYVIDPEPCPDS