



**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 CD81 Protein  
**Catalog Number:** hRP-1817  
**Manufacturer:** LD Biopharma, Inc.

### Introduction

Human CD81 protein is a member of the transmembrane 4 superfamily, also known as the tetraspanin family. Most of these members are cell-surface proteins with *two extracellular domains* that are characterized by the presence of four hydrophobic domains. The proteins mediate signal transduction events that play a role in the regulation of cell development, activation, growth and motility. Human CD81 protein is a cell surface glycoprotein that is known to complex with integrins. This protein appears to promote muscle cell fusion and support myotube maintenance. Also it may be involved in signal transduction. Human CD81 is also act as receptor for HCV infection. This gene is localized in the tumor-suppressor gene region and thus it is a candidate gene for malignancies. Recent data indicated that CD81 was enriched in exosome vesicles, could be used for identification or purification of exosome.

Two extracellular domains of human CD81 cDNA (34 – 63aa & 113-201aa fusion) was constructed with codon optimization using gene synthesis technology and expressed with a small T7-His-TEV cleavage site Tag (29aa) fusion at its N-terminal. This protein was 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:** CD81 (CVID6; S5.7; TAPA1; TSPAN28)  
**Accession Number:** NP\_004347  
**Species:** Human  
**Size:** 50 µg / Vial  
**Composition:** 1.0 mg/ml, sterile-filtered, in 20 mM pH 8.0 Tris-HCl Buffer, with proprietary formulation of NaCl, KCl, EDTA, Sucrose and DTT.  
**Storage:** In Liquid. Keep at -80°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>

Hazawa M, et al., *Radiation increases the cellular uptake of exosomes through CD29/CD81 complex formation*. *Biochem. Biophys. Res. Commun.* 446 (4), 1165-1171 (2014)

Houldsworth A, et al., *CD81 sequence and susceptibility to hepatitis C infection*. *J. Med. Virol.* 86 (1), 162-168 (2014)

Rocha-Perugini V, et al., *CD81 controls sustained T cell activation signaling and defines the maturation stages of cognate immunological synapses*. *Mol. Cell. Biol.* 33 (18), 3644-3658 (2013)

He J, et al., *Dual function of CD81 in influenza virus uncoating and budding*. *PLoS Pathog.* 9 (10), E1003701 (2013)

## **Applications**

1. May be used for in vitro CD81 mediated integrin interaction in T cell activation regulation study with this protein either as soluble factor or as coating matrix protein.
2. May be used for protein-protein interaction mapping.
3. Potential biomarker protein for monitoring blood derived exosome vesicles.
4. As immunogen for specific antibody production.

## **Quality Control**

Purity: > 90% by SDS-PAGE.

## **Recombinant Protein Sequence**

MASMTGGQQMGRGHHHHHENLYFQGGEF~~WLRHDPQTTNLLYLELGDKPAPNTFYVGIYGGGSF~~  
V~~NKDQIAKDVKQFYDQALQQAVVDDDDANNAKAVVKT~~FHETLDCCGSSTLTALTTSVLKNNLCPS  
GSNIISNLFKEDCHQKIDDLFSGK