



**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 CD166 Protein  
**Catalog Number:** hRP-0523  
**Manufacturer:** LD Biopharma, Inc.

### Introduction

This gene encodes activated leukocyte cell adhesion molecule (ALCAM), also known as CD166 (cluster of differentiation 166), which is a member of a subfamily of immunoglobulin receptors with five immunoglobulin-like domains (VVC2C2C2) in the extracellular domain. This protein binds to T-cell differentiation antigens CD6, and is implicated in the processes of cell adhesion and migration. Recent data indicated that CD166 expression levels were up-regulated in many tumor cells, and detection of CD166 could be used as biomarker for various disease diagnosis applications.

Recombinant human CD166 extracellular domain cDNA (28 - 527 aa, Isoform 1) 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:** CD166 (ALCAM; MEMD)  
**Accession Number:** NP\_001618  
**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 -80°C for long term storage. Product is stable at 4 °C for at least 30 days.



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## Key References

Minner,S., et al., *Low activated leukocyte cell adhesion molecule expression is associated with advanced tumor stage and early prostate-specific antigen relapse in prostate cancer.* Hum. Pathol. 42 (12), 1946-1952 (2011)

Tachezy,M., et al., *ALCAM (CD166) expression as novel prognostic biomarker for pancreatic neuroendocrine tumor patients.* J. Surg. Res. 170 (2), 226-232 (2011)

Smedbakken,L., et al., *Activated leukocyte cell adhesion molecule and prognosis in acute ischemic stroke.* Stroke 42 (9), 2453-2458 (2011)

## 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 cardiovascular diseases and tumor diagnostic development.
3. As antigen for specific antibody production.

## Quality Control

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

## 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

MASMTGGQQMGRGHHHHHGNLYFQGGEFWYTVNSAYGDTIIIPCRLDVPQNL MFGKWKYEKPD  
GSPVFIAFRSSTKKSQYDDVPEYKDRNLNLSENYTLSSISNARISDEKRFVCM LVTEDNVFEAPT  
IVKVFQKQPSKPEIVSKALFLETEQLKKGDCISEDSYPDGNITWYRNGKVLHPLEGAVV IIFKK  
EMDPVTQLYTMTSTLEYKTTKADIQMPFTCSVTYYGPSGQKTIHSEQAVFDIYYPT EQVTIQVL  
PPKNAIKEGDNITLKCLGNPNPPEEFLFYLPQPEGIRSSNTYTLTDVRRNATGDYKCSLIDK  
KSMIASTAITVHYLDLSLNPSGEVTRQIGDALPVSCTISASRNATVWVMKDNIRLRSSPSFSSL  
HYQDAGNYVCETALQEVEGLKRESLTLIVEGKPKQIKMTKKTDP SGLSKTIIICHVEGF PKPAIQ  
WTITGSGSVINQTEESPYINGRYYSKIIISPEENVTLTCTAENQLERTVNSLNVSAIS IPEHDE  
ADEISDENREKVNDQAK