



**LD Biopharma, Inc.**  
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<http://www.ldbiopharma.com>

## - PRODUCT DATA SHEET -

**Name of Product:** Recombinant Human PCDH12 Protein  
**Catalog Number:** hRP-1113  
**Manufacturer:** LD Biopharma, Inc.

### Introduction

Human PCDH12 gene belongs to the protocadherin gene family, a subfamily of the cadherin superfamily. The encoded protein consists of an extracellular domain containing 6 cadherin repeats, a transmembrane domain and a cytoplasmic tail that differs from those of the classical cadherins. The gene localizes to the region on chromosome 5 where the protocadherin gene clusters reside. The exon organization of this transcript is similar to that of the gene cluster transcripts, notably the first large exon, but no significant sequence homology exists. The function of this cellular adhesion protein is undetermined but mouse protocadherin 12 does not bind catenins and appears to have no effect on cell migration or growth. Recent data indicated that PCDH12 also plays an important role in placenta development,

Full-length mature human PCDH12 cDNA (25–718aa, derived from BC042634) was constructed with codon optimization and expressed with a small T7-His-TEV cleavage site Tag (29aa) fusion at its N-terminal. This protein is 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:** PCDH12 (VE-cadherin-2; VECAD2)  
**Accession Number:** NP\_057664  
**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, 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

Bouillot,S., et al., *Protocadherin-12 cleavage is a regulated process mediated by ADAM10 protein: evidence of shedding up-regulation in pre-eclampsia*. J. Biol. Chem. 286 (17), 15195-15204 (2011)

Gregorio,S.P., et al., *Polymorphisms in genes involved in neurodevelopment may be associated with altered brain morphology in schizophrenia: preliminary evidence*. Psychiatry Res 165 (1-2), 1-9 (2009)

## Applications

1. May be used for in vitro PCDH12 mediated neuronal cell / placenta differentiation regulation study with this protein as either coating matrix protein or soluble factor.
2. May be used as PCDH12 protein-protein interaction assay.
3. Potential diagnostic biomarker protein for pre-eclampsia.
4. As antigen for specific antibody production.

## Quality Control

Purity: > 90% by SDS-PAGE.

## Recombinant Protein Sequence

MASMTGGQQMGRGHHHHHGNLYFQGGEFQEVTTLTVKYQVSEEVPSGTVIGKLSQELGREERR  
RQAGAAFQVLQLPQALPIQVDSEEGLLSTGRRLDREQLCRQWDPCLVSFDVLATGDLALIHVEI  
QVLDINDHQPRFPKGEQELEISESASLRTRIPLDRALDPDTGPNLHTYTLSPSEHFALDVIVG  
PDETKHAELIVVKELDREIHSFFDLVLTAYDNGNPPKSGTSLVKVNVLDSNDNSPAFAESSLAL  
EIQEDAAPGTLLIKLTATDPDQGPNGEVEFFLSKHMPPEVLDTFSIDAKTGQVILRRPLDYEKN  
PAYEVDVQARDLGNPIPAHCKVLIKVLVDVNDNIPSIHVTWASQPSLVSEALPKDSFIALVMAD  
DLDSGNNGLVHCWLSQELGHFRLKRTNGNTYMLLTNATLDREQWPKYTLTLLAQDQGLQPLSAK  
KQLSIQISDINDNAPVFEKSRYEVSTRENNLPSLHLITIKAHADLGINGKVSRYRIQDSPVAHL  
VAIDSNTGEVTAQRSLNYEEMAGFEFQVIAEDSGQPMLASSVSVWVSLLDANDNAPEVVQPVLS  
DGKASLSVLVNASTGHLLVPIETPNGLGPAGTDTPPLATHSSRPFLLTIVARDADSGANGEPL  
YSIRSGNEAHLFILNPHTGQLFVNVTNASSLIGSEWELEIVVEDQGSPPLQTRALLRVMFVTSV  
DHLRDSARKPGALSMSMLT