

## Product datasheet for **RC223989**

### Caldesmon (CALD1) (NM\_033157) Human Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	Caldesmon (CALD1) (NM_033157) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Caldesmon
Synonyms:	CDM; H-CAD; HCAD; L-CAD; LCAD; NAG22
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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**ORF Nucleotide Sequence:**

>RC223989 representing NM\_033157  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGCATCGCC**

ATGGATGATTTTGAGCGTCGCAGAGAACTTAGAAGGCCAAAAGAGGGAGGAGATGCGACTCGAAGCAGAAA  
 GAATCGCCTACCAGAGGAATGACGATGATGAAGAGGAGGCAGCCGGGAACGGCGCCGAGCCGACA  
 GGAACGGCTGCGGCAGAAGCAGGAGGAAGAATCCTTGGGACAGGTGACCGACCAGGTGGAGGTGAATGCC  
 CAGAACAGTGTGCCTGACGAGGAGGCCAAGACAACCACCACAAACTCAAGTGAAGGGGATGATGAGG  
 CCGCATTCTGGAGCGCCTGGCTCGGCGTGAGGAAAGACGCCAAAAACGCCTTCAGGAGGCTCTGGAGCG  
 GCAGAAGGAGTTCGACCAACAATAACAGATGCAAGTCTGTGCTCCCAAGCAGAAGAATGCAAAATGAC  
 ACAGCAGAAAATGAACTACCGAGAAGGAAGAAAAAGTGAAGTGCCTCAAGAAAGATACGAGATAGAGG  
 AAACAGAAACAGTCACCAAGTCTACCAGAAGAATGATTGGAGGGATGCTGAAGAAAACAAGAAAGAAGA  
 CAAGGAAAAGGAGGAGGAGAAGAGGAGAAAGCCAAAGCGAGGGAGCATTGGAGAAAATCAGGAGAAAGAG  
 AAGGGAATCAAAGTGAAGCTAAAAGAGAAAAGCTCCAAGAAGACAAGCCTACCTTCAAAAAAGAAGAGA  
 TCAAAGATGAAAAGATTAAGGACAAAAGAACCCAAAGAAGAAGTTAAGAGCTTCATGGATCGAAAAGAA  
 GGGATTTACAGAAGTTAAGTCGCAGAATGGAGAATTCATGACCCACAACTTAAACATACTGAGAATACT  
 TTCAGCCGCCCTGGAGGGAGGGCCAGCGTGGACACCAAGGAGGCTGAGGGCGCCCCCAGGTGGAAGCCG  
 GCAAAAGGCTGGAGGAGCTTCGTCGTCGTCGCGGGGAGACCGAGAGCGAAGAGTTCGAGAAGCTCAACA  
 GAAGCAGCAGGAGGCGGCTTTGGAGCTGGAGGAACTCAAGAAAAAGAGGGAGGAGAGAAGGAAGTCTG  
 GAGGAAAGAGCAGAGGAGGAAGCAGGAGGAAGCCGATCGAAAACCTCAGAGAGGAGGAAGAGAAGGAGGA  
 GGCTAAAGGAAGAGATTGAAAGGCGAAGAGCAGAAGCTGCTGAGAAAACCCAGAAGATGCCAGAAGATGG  
 CTTGTCAGATGACAAGAACCATTCAAGTGTTCCTACTCCTAAAGGTTCTCTCAAGATAGAAGAGCGA  
 GCAGAATTTTGAATAAGTCTGTGCAGAAAAGCAGTGGTGTCAAATCGACCCATCAAGCAGCAATAGTCT  
 CCAAGATTGACAGCAGACTGGAGCAGTATACCAGTGAATGAGGGAACAAAAAGCGCAAAACCTACAAA  
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 AATGTGTTTTTATCCCCACTGCAGCAGGCACACCAAATAAGGAACTGCTGGCTTGAAGGTAGGGGTTT  
 CTAGCCGATCAATGAATGGCTAACTAAAACCCAGATGGAAACAAGTCACTGCTCCCAACCTTCTGA  
 CTTGAGACCAGGAGACGTATCCAGCAAGCGGAACCTCTGGAAAAGCAATCTGTGGATAAGGTCACTTCC  
 CCCACTAAGTT

**ACGCGT**ACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT  
 ACAAGGATGACGACGATAAGGTTTAA

**Protein Sequence:**

>RC223989 representing NM\_033157  
 Red=Cloning site Green=Tags(s)

MDDFERRRELRRQKREEMRLEAERIAAYQRNDDDEEEAARERRRRARQERLRQKQEEESLGQVTDQVEVNA  
 QNSVPDEEAKTTTNTQVEGDDEAAFLERLARREERRQKRLQEALERQKEFDPTITDASLSLPSRRMQND  
 TAENETTEKEEKSESRQERYEIEETETVTKSYQKNDWRDAEENKEDKEKEEEEEKPKRGSIGENQGEE  
 KGTKVQAKREKLQEDKPTFKKEEIKDEKIKKDKPEKKEVKSFMDRKKGFTEVKSQNGEFMTHLKHENT  
 FSRPGGRASVDTKEAEGAPQVEAGKRLEELRRRRGETESEFEKLRKQKQEAALAELEELKKKREERRKVL  
 EEEEQRRKQEEADRKLREEEERRLKEEIERRRRAEAAEKRQKMPEDGLSDDKPKFKFTPKGSSLKIEER  
 AEFLNKSQKSSGVKSTHQAAIVSKIDSRLEQYTSIAIEGTKSAKPTKPAASDLPVPAEGVNRNIKSMWEKG  
 NVFSSPTAAGTPNKETAGLKVGVSSRINEWLTKTPDGNKSPAPKPSDLRPGDVSSKRNLWEKQSVDKVTS  
 PTKV

**TR**TRPLEQKLISEEDLAANDILDYKDDDDKV

**Chromatograms:**

[https://cdn.origene.com/chromatograms/mk6707\\_f07.zip](https://cdn.origene.com/chromatograms/mk6707_f07.zip)

**Restriction Sites:**

Sgfl-Mlul

**Cloning Scheme:**


**ACCN:** NM\_033157

**ORF Size:** 1692 bp

**OTI Disclaimer:** The molecular sequence of this clone aligns with the gene accession number as a point of reference only. However, individual transcript sequences of the same gene can differ through naturally occurring variations (e.g. polymorphisms), each with its own valid existence. This clone is substantially in agreement with the reference, but a complete review of all prevailing variants is recommended prior to use. [More info](#)

**OTI Annotation:** This clone was engineered to express the complete ORF with an expression tag. Expression varies depending on the nature of the gene.

**Components:** The ORF clone is ion-exchange column purified and shipped in a 2D barcoded Matrix tube containing 10ug of transfection-ready, dried plasmid DNA (reconstitute with 100 ul of water).

- Reconstitution Method:**
1. Centrifuge at 5,000xg for 5min.
  2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.
  3. Close the tube and incubate for 10 minutes at room temperature.
  4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.
  5. Store the suspended plasmid at -20°C. The DNA is stable for at least one year from date of shipping when stored at -20°C.

**RefSeq:** [NM\\_033157.2](#), [NP\\_149347.1](#)

**RefSeq Size:** 4546 bp

**RefSeq ORF:** 1692 bp

**Locus ID:** 800

**UniProt ID:** [Q05682](#)

**Cytogenetics:** 7q33

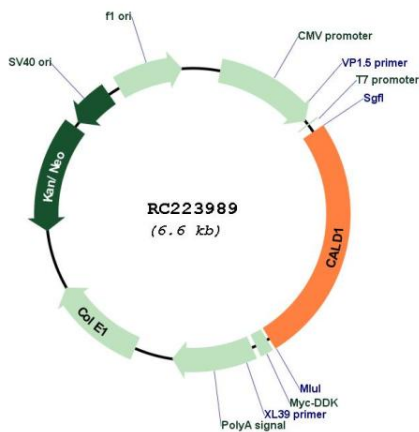
**Domains:** Caldesmon

**Protein Pathways:** Vascular smooth muscle contraction

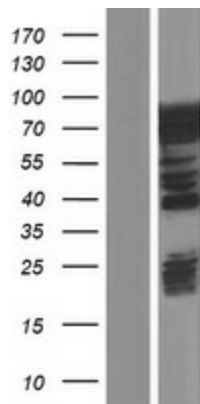
**MW:** 65.4 kDa

**Gene Summary:** This gene encodes a calmodulin- and actin-binding protein that plays an essential role in the regulation of smooth muscle and nonmuscle contraction. The conserved domain of this protein possesses the binding activities to Ca(2+)-calmodulin, actin, tropomyosin, myosin, and phospholipids. This protein is a potent inhibitor of the actin-tropomyosin activated myosin MgATPase, and serves as a mediating factor for Ca(2+)-dependent inhibition of smooth muscle contraction. Alternative splicing of this gene results in multiple transcript variants encoding distinct isoforms. [provided by RefSeq, Jul 2008]

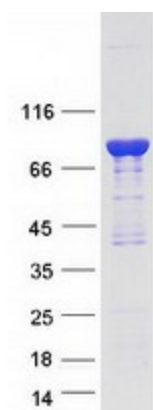
**Product images:**



Circular map for RC223989



Western blot validation of overexpression lysate (Cat# [LY409713]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC223989 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified CALD1 protein (Cat# [TP323989]). The protein was produced from HEK293T cells transfected with CALD1 cDNA clone (Cat# RC223989) using MegaTran 2.0 (Cat# [TT210002]).