

## Product datasheet for **SC127344**

### Caldesmon (CALD1) (NM\_033139) Human Untagged Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	Caldesmon (CALD1) (NM_033139) Human Untagged Clone
Tag:	Tag Free
Symbol:	Caldesmon
Synonyms:	CDM; H-CAD; HCAD; L-CAD; LCAD; NAG22
Mammalian Cell Selection:	None
Vector:	<u><a href="#">pCMV6-XL4</a></u>
E. coli Selection:	Ampicillin (100 ug/mL)



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**Fully Sequenced ORF:** >NCBI ORF sequence for NM\_033139, the custom clone sequence may differ by one or more nucleotides

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ATGCTGGGTGGATCCGGATCGCATGGAAGACGCAGCCTGGCCGCGCTCTCCAAATCGCCTACCAGAGGA
ATGACGATGATGAAGAGGAGGCAGCCCGGGAACGGCGCCGAGCCCGACAGGAACGGCTGCGGCAGAA
GCAGGAGGAAGAATCCTTGGGACAGGTGACCGACCAGGTGGAGGTGAATGCCAGAACAGTGTCCCTGAC
GAGGAGGCCAAGACAACCACCACAAACTCAAGTGGAAGGGATGATGAGGCCGATTCTGGAGCGCC
TGGCTCGGCGTGAGGAAAAGACGCCAAAAACGCCTTCAGGAGGCTCTGGAGCGGCAGAAGGAGTTCGACCC
AACAAACAGATGCAAGTCTGTGCTCCCAAGCAGAAGAATGCAAAATGACACAGCAGAAAAATGAAACT
ACCGAGAAGGAAGAAAAAGTGAAGTCGCAAGAAAGATACGAGATAGAGGAAACAGAAACAGTACCA
AGTCTACCAGAAGAATGATTGGAGGGATGCTGAAGAAAAACAAGAAAGAGACAAGGAAAAGGAGGAGGA
GGAAGAGGAGAAGCCAAAGCGAGGGAGCATTGGAGAAAATCAGGGAGAAGAGAAGGGAACAAAGTGCAA
GCTAAAAGAGAAAAGCTCCAAGAAGACAAGCCTACCTTCAAAAAAGAAGAGATCAAAGATGAAAAGATTA
AAAAGGACAAAGAACCCAAAGAAGAAGTTAAGAGCTTCATGGATCGAAAGAAGGGATTTACAGAAGTTAA
GTCGCAGAATGGAGAATTCATGACCCACAACTTAAACATACTGAGAATACTTTACGCCGCTGGAGGG
AGGGCCAGCGTGGACACCAAGGAGGCTGAGGGCGCCCCAGGTGGAAGCCGGCAAAAGGCTGGAGGAGC
TTCGTCGTCGTCGCGGGAGACCGAGAGCGAAGAGTTCGAGAAGCTCAAACAGAAGCAGCAGGAGGCGGC
TTTGGAGCTGGAGGAACCAAGAAAAAGAGGGAGGAGAGAAGGAAGGTCTGGAGGAGGAAGAGCAGAGG
AGGAAGCAGGAGGAAGCCGATCGAAAACCTAGAGAGGAGGAAGAGAAGAGGAGGCTAAAGGAAGAGATTG
AAAGGCGAAGAGCAGAAGCTGCTGAGAAACGCCAGAAGATGCCAGAAGATGGCTTGTGATGACAAGAA
ACCATTCAAGTGTTCCTCCTAAAGGTTTCACTCTCAAGATAGAAGAGCGAGCAGAATTTTTGAATAAG
TCTGTGCAGAAAAGCAGTGGTGTCAAATCGACCATCAAGCAGCAATAGTCTCAAAGATTGACAGCAGAC
TGGAGCAGTATACCAGTGAATTGAGGGAACAAAAGCGCAAACTACAAGCCGGCAGCTCGGATCT
TCTGTTCTGCTGAAGGTGTACGCAACATCAAGAGTATGTGGGAGAAAGGAATGTGTTTTTATCCCCC
ACTGCAGCAGGCACACCAATAAGGAACTGCTGGCTTGAAGGTAGGGGTTTCTAGCCGATCAATGAAT
GGCTAACTAAAACCCAGATGGAACAAGTCACCTGCTCCAAACCTTCTGACTTGAGACCAGGAGACGT
ATCCAGCAAGCGGAACCTCTGGGAAAAGCAATCTGTGGATAAGGTCACTTCCCCACTAAGGTTTGA
    
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**5' Read Nucleotide Sequence:**

>OriGene 5' read for NM\_033139 unedited

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GTCAAAATTTGTATACGACTCACTATAGCGGCGCCGCAATCGGCACGAGGAACGTGTAA
CACAAAGGGGAGAACACGGGAGCATCCTGCACCGTGCATTTACGCCACAGATCACATGGC
CCCTCCGCGGGGCCAGCCACGGCCTGACCGCCCGGCCTGGCCAGGTCTCCGTATCTCTC
TGCCCCGCGCCCTTCCCAACTGCGGACATGCTGGGTGGATCCGGATCGCATGGAAGAC
GCAGCCTGGCCGCGCTCTCCAAATCGCCTACCAGAGGAATGACGATGATGAAGAGGAGG
CAGCCCGGGAACGGCGCCGCCGACCCGACAGGAACGGCTGCGGCAGAAGCAGGAGGAAG
AATCCTTGGGACAGGTGACCGACCAGGTGGAGGTGAATGCCAGAACAGTGTGCCTGACG
AGGAGGCCAAGACAACCACCACAAACTCAAGTGGAAGGGATGATGAGGCCGATTCC
TGGAGCGCTGGCTCGGCGTGAGGAAAAGACGCCAAAAACGCCTTCAGGAGGCTCTGGAGC
GGCAGAAGGAGTTCGACCCAACAATAACAGATGCAAGTCTGTGCTCCCAAGCAGAAGAA
TGCAAAATGACACAGCAGAAAAATGAAACTACCGAGAAGGGAGNAAAAAGTGAAGTCGCC
AAGAAAGATACGAGATAGAGGAAACAGAAACAGTACCAAGTCTACCAGAAGATGATTG
GGAGGATGCTGAAGAAAACAAGAAAGAGACAAGGAAAGGAGGAGGAGGAAAAGGAAAACC
CAAGCGAGGGAACCTTGGGAAAAATCCGATCAAGGATGAAAGATTAAGGGCCAAGAACC
CAGGAAAAGTTAAGACTTCATGATCGAAAAAGGGA
    
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<b>3' Read Nucleotide Sequence:</b>	>OriGene 3' read for NM_033139 unedited NTTTTAGCTATGGACCCGCGCCGCATNCTAGGATCGAGTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTG CAGGAAGGGAATCCATTTATTGGGGATGCATTTTACAAATATATGTTT ATTGGAGCGATCCATTATCAGTAAAAGTATCAAGTGTTATAAAATTTTAGGAATGGC AGATTCACAGAACATGCTAGTCAGCTTGCAGTTTTACCTCGTAAAGATAACAGAGAATTA TAGTCAAACCAGTAAACAAGGAATTTACTTTTCAAAGATTAATCCAACTGAACAAAA TTCTACCCTAAAACCTTACTCCATCCAAATATTGGAATAAAAGTCAGCAGTGATACATTCT CTCTGAACTTTAAATTTCTAGAAAAATATGTAATAGTGATCAGGAGGAGCTCTTGTTCT AAAAGTACAACAAAGCAATGTTACCTTACCATAGGCCTTAATTCAAACCTTGATCCATTT CACTCCAATGACGGGAGTCAATGCTACCTGGGACACTTGTATTGTAAATTCTGATTTAG CTTATTGTAGACTTGTGCCTACTTTGTCATGAGGGTTTGACTTCTGCATTCTTCGTGGCT TTCCTTCTTTGGCTTAGGTTTGCTAAAGCTAGAAGATTCAATTGCTCTTACAGACTTA TGAGGAAGATAGACTTTGTAACGCAGATGCTACTTCTCATGCCAGCCCTGCCCTGGTTAG CTCTTCTGGAGGATACTGCAGATAGAAAAATAGTATTTGGNAGCTCCCTTCATGTGGTA GGATTGAAACTACACAATTTTGTTAAGCCCACTGAGTATGAGTTATAGAACTCCCTGGTT GATTCCGCTTTACTAGACATTTGCAAAACCTGGAAGACTTTTCATTTACTGGAGAA AAAAGACTAAAGCTTTAATAAGTTGGGTT
<b>Restriction Sites:</b>	NotI-NotI
<b>ACCN:</b>	NM_033139
<b>Insert Size:</b>	4000 bp
<b>OTI Disclaimer:</b>	Due to the inherent nature of this plasmid, standard methods to replicate additional amounts of DNA in E. coli are highly likely to result in mutations and/or rearrangements. Therefore, OriGene does not guarantee the capability to replicate this plasmid DNA. Additional amounts of DNA can be purchased from OriGene with batch-specific, full-sequence verification at a reduced cost. Please contact our customer care team at <a href="mailto:custsupport@origene.com">custsupport@origene.com</a> or by calling 301.340.3188 option 3 for pricing and delivery.
	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. <a href="#">More info</a>
<b>Components:</b>	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).
<b>Reconstitution Method:</b>	<ol style="list-style-type: none"> <li>1. Centrifuge at 5,000xg for 5min.</li> <li>2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.</li> <li>3. Close the tube and incubate for 10 minutes at room temperature.</li> <li>4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.</li> <li>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.</li> </ol>
<b>RefSeq:</b>	<a href="#">NM_033139.2</a> , <a href="#">NP_149130.1</a>
<b>RefSeq Size:</b>	4291 bp

RefSeq ORF: 1677 bp

Locus ID: 800

UniProt ID: [Q05682](#)

Cytogenetics: 7q33

Domains: Caldesmon

Protein Pathways: Vascular smooth muscle contraction

**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]  
Transcript Variant: This variant (4) differs in the 5' UTR and 5' coding region, and uses an alternate in-frame splice site in the central coding region, compared to variant 1. It is mainly expressed in non-muscle tissues or cells. The resulting isoform (4, also known as HeLa I-CaD I) contains a distinct N-terminus and is shorter than isoform 1.