OriGene Technologies, Inc.
9620 Medical Center Drive, Ste 200
Rockville, MD 20850, US
Phone: +1-888-267-4436
https://www.origene.com
techsupport@origene.com
EU: info-de@origene.com
CN: techsupport@origene.cn

Product datasheet for RC205642

Calpain 2 (CAPN2) (NM_001748) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Calpain 2 (CAPN2) (NM_001748) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Calpain 2
Synonyms:	CANP2; CANPL2; CANPml; mCANP
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)

ORF Nucleotide Sequence:

>RC205642 ORF sequence
Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCCGCGATCGCC

ATGGCGGGCATCGCGGCCAAGCTGGCGAAGGACCGGGAGGCGGCCGAGGGGCTGGGCTCCCACGAGAGGG
CCATCAAGTACCTCAACCAGGACTACGAGGCGCTGCGGAACGAGTGCCTGGAGGCCGGGACGCTCTTCCA
GGACCCGTCCTTCCCGGCCATCCCCTCGGCCCTGGGCTTCAAGGAGTTGGGGCCCTACTCCAGCAAAACC
CGGGGCATCGAGTGGAAGCGCCCCACGGAGATCTGCGCTGACCCCCAGTTTATCATTGGAGGAGCCACCC
GCACAGACATCTGCCAAGGAGCCCTAGGTGACTGCTGGCTGCTGGCAGCCATTGCCTCCCTCACCTTGAA
TGAAGAAATCCTGGCTCGAGTCGTCCCCCTAAACCAGAGCTTCCAGGAAAACTATGCAGGGATCTTTCAC
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AGCTGCTCTTTGTGCATTCAGCCGAAGGGAGCGAGTTCTGGAGCGCCCTGCTGGAGAAGGCATACGCCAA
GATCAACGGATGCTATGAAGCACTATCAGGGGGTGCCACCACTGAGGGCTTCGAAGACTTCACCGGAGGC
ATTGCTGAGTGGTATGAGTTGAAGAAGCCCCCTCCCAACCTGTTCAAGATCATCCAGAAAGCTCTGCAAA
AAGGCTCTCTCCTTGGCTGCTCCATCGACATCACCAGCGCCGCGGACTCGGAGGCCATCACGTTTCAGAA
GCTGGTGAAGGGGCACGCGTACTCGGTCACCGGAGCCGAGGAGGTTGAAAGTAACGGAAGCCTACAGAAA
CTGATCCGCATCCGAAATCCCTGGGGAGAAGTGGAGTGGACAGGGCGGTGGAATGACAACTGCCCAAGCT
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GATACCTACAAGAAGTGGAAACTCACCAAAATGGATGGGAACTGGAGGCGGGGCTCCACCGCGGGAGGTT
GCAGGAACTACCCGAACACATTCTGGATGAACCCTCAGTACCTGATCAAGCTGGAGGAGGAGGATGAGGA
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GTTTGCCCAGTTGGCAGGAGAGGATGCGGAGATCTCTGCCTTTGAGCTGCAGACCATCCTGAGAAGGGTT
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CCAAAAAATTTACCGAGAAATCGACGTTGACAGGTCTGGTACCATGAATTCCTATGAAATGCGGAAGGCA
TTAGAAGAAGCAGGTTTCAAGATGCCCTGTCAACTCCACCAAGTCATCGTTGCTCGGTTTGCAGATGACC
AGCTCATCATCGATTTTGATAATTTTGTTCGGTGTTTGGTTCGGCTGGAAACGCTATTCAAGATATTTAA
GCAGCTGGATCCCGAGAATACTGGAACAATAGAGCTCGACCTTATCTCTTGGCTCTGTTTCTCAGTACTT

AGCGGACCGACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCC
TGGATTACAAGGATGACGACGATAAGGTTTAA

Protein Sequence:

>RC205642 protein sequence
Red=Cloning site Green=Tags(s)

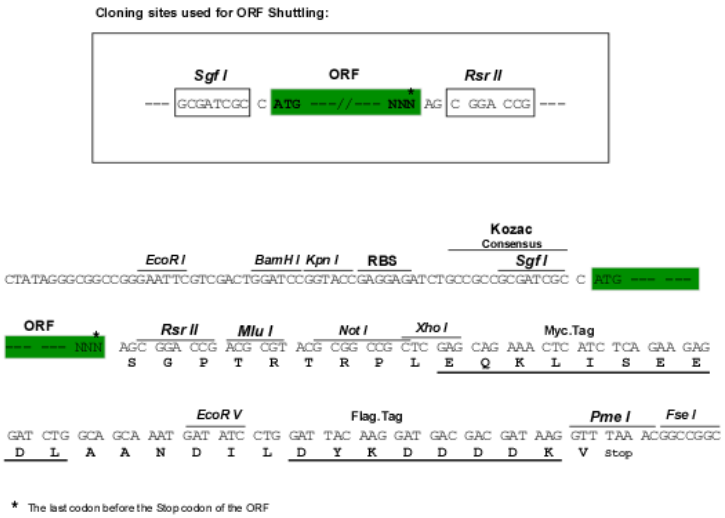
MAGIAAKLAKDREAAEGLGSHERAIKYLNQDYEALRNECLEAGTLFQDPSFPAIPSALGFKELGPYSSKT
RGIEWKRPTEICADPQFIIGGATRTDICQGALGDCWLLAAIASLTLNEEILARVVPLNQSFQENYAGIFH
FQFWQYGEWVEVVVDDRLPTKDGELLFVHSAEGSEFWSALLEKAYAKINGCYEALSGGATTEGFEDFTGG
IAEWYELKKPPPNLFKIIQKALQKGSLLGCSIDITSAADSEAITFQKLVKGHAYSVTGAEEVESNGSLQK
LIRIRNPWGEVEWTGRWNDNCPSWNTIDPEERERLTRRHEDGEFWMSFSDFLRHYSRLEICNLTPDTLTS
DTYKKWKLTKMDGNWRRGSTAGGCRNYPNTFWMNPQYLIKLEEEDEDEEDGESGCTFLVGLIQKHRRRQR
KMGEDMHTIGFGIYEVPEELSGQTNIHLSKNFFLTNRARERSDTFINLREVLNRFKLPPGEYILVPSTFE
PNKDGDFCIRVFSEKKADYQAVDDEIEANLEEFDISEDDIDDGFRRLFAQLAGEDAEISAFELQTILRRV
LAKRQDIKSDGFSIETCKIMVDMLDSDGSGKLGLKEFYILWTKIQKYQKIYREIDVDRSGTMNSYEMRKA
LEEAGFKMPCQLHQVIVARFADDQLIIDFDNFVRCLVRLETLFKIFKQLDPENTGTIELDLISWLCFSVL

SGPTRTRPLEQKLISEEDLAANDILDYKDDDDKV

Chromatograms: https://cdn.origene.com/chromatograms/mk6184_c12.zip

Restriction Sites: SgfI-RsrII

Cloning Scheme:



ACCN: NM_001748

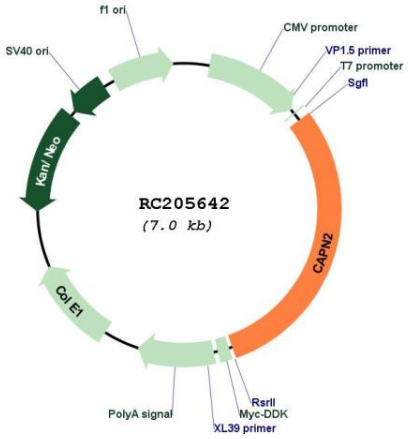
ORF Size: 2100 bp

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

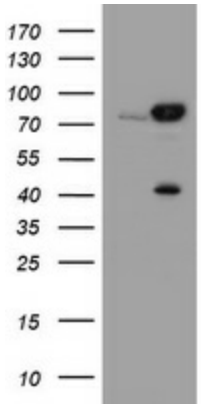
OTI Annotation: This clone was engineered to express the complete ORF with an expression tag. Expression varies depending on the nature of the gene.

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.
Note:	Plasmids are not sterile. For experiments where strict sterility is required, filtration with 0.22um filter is required.
RefSeq:	NM_001748.5
RefSeq Size:	3492 bp
RefSeq ORF:	2103 bp
Locus ID:	824
UniProt ID:	P17655
Cytogenetics:	1q41
Domains:	Calpain_III, EFh
Protein Families:	Druggable Genome, Protease
Protein Pathways:	Alzheimer's disease, Apoptosis, Focal adhesion
MW:	80 kDa
Gene Summary:	The calpains, calcium-activated neutral proteases, are nonlysosomal, intracellular cysteine proteases. The mammalian calpains include ubiquitous, stomach-specific, and muscle-specific proteins. The ubiquitous enzymes consist of heterodimers with distinct large, catalytic subunits associated with a common small, regulatory subunit. This gene encodes the large subunit of the ubiquitous enzyme, calpain 2. Multiple heterogeneous transcriptional start sites in the 5' UTR have been reported. Two transcript variants encoding different isoforms have been found for this gene. [provided by RefSeq, Mar 2009]

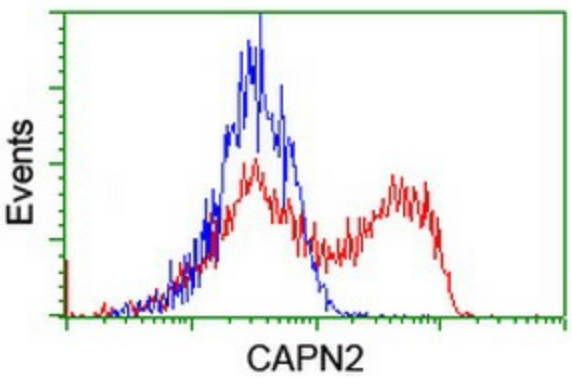
Product images:



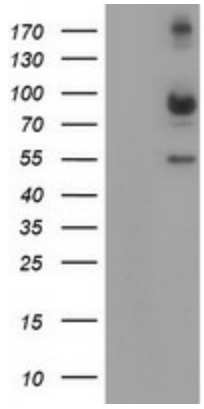
Circular map for RC205642



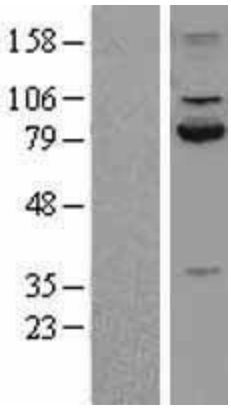
HEK293T cells were transfected with the pCMV6-ENTRY control (Cat# [PS100001], Left lane) or pCMV6-ENTRY CAPN2 (Cat# RC205642, Right lane) cDNA for 48 hrs and lysed. Equivalent amounts of cell lysates (5 ug per lane) were separated by SDS-PAGE and immunoblotted with anti-CAPN2(Cat# [TA504280]). Positive lysates [LY400662] (100ug) and [LC400662] (20ug) can be purchased separately from OriGene.



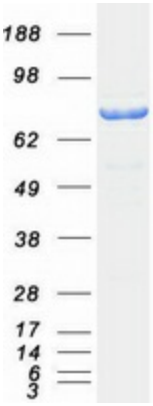
HEK293T cells transfected with either RC205642 overexpress plasmid (Red) or empty vector control plasmid (Blue) were immunostained by anti-CAPN2 antibody ([TA504345]), and then analyzed by flow cytometry.



HEK293T cells were transfected with the pCMV6-ENTRY control (Left lane) or pCMV6-ENTRY CAPN2 (RC205642, Right lane) cDNA for 48 hrs and lysed. Equivalent amounts of cell lysates (5 ug per lane) were separated by SDS-PAGE and immunoblotted with anti-CAPN2 ([TA504345]). Positive lysates [LY400662] (100ug) and [LC400662] (20ug) can be purchased separately from OriGene.



Western blot validation of overexpression lysate (Cat# [LY400662]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from un-transfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC205642 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified CAPN2 protein (Cat# [TP305642]). The protein was produced from HEK293T cells transfected with CAPN2 cDNA clone (Cat# RC205642) using MegaTran 2.0 (Cat# [TT210002]).