

Product datasheet for **RC212285**

SMCR8 (NM_144775) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	SMCR8 (NM_144775) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	SMCR8
Synonyms:	DENND8A
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



[View online »](#)

ORF Nucleotide Sequence:

>RC212285 representing NM_144775
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGGATCGCC**

ATGATCAGCGCCCCTGACGTAGTGGCCTTACCAAAGAGGAAGAGTATGAAGAAGAGCCTTACAATGAGC
 CGGCCCTGCCTGAGGAGTACTCGGTGCCCTCTCCCTTCGCCAGTCAGGGTGCTAACCCTGGTCAAA
 ACTGTCCGGGGCCAAGTTTTTCGAGGGACTTCATTCTTATTTCCGAGTTCTCTGAGCAGGTGGACCCCAA
 CCCTTACTGACCATCCCCAATGACACCAAAGTTTTTGGCACTTTTGATCTCAATTAATCTCCCTGCGTA
 TCATGTCTGTGGATTACCAGGCTTCCTTCGTGGGCCATCCTCCTGGATCTGCCTACCCCAAGCTGAACCT
 CGTGGAGGACTCCAAGGTGGTCTGGGAGATTCTAAGGAGGGCGCCTTTCATACGTGCACCACCTTACC
 CTATACGACTGGAGGCCGTGGCTTCGTGAGGCCGTTTTGCATGGCTTATCTCTGCAGACCAGCATA
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 ATGAACTGGCCAGTGTGGAGAAGTCCATCATTGAACATCAAGACCTGCTGAAGCAGATCCGCTCATACCC
 TCATCGGAAGTTGAAGGGGCATGATTTGTGTCTGGTGGATGGAGCACATCCAGGATCAGGCCAGCCAG
 GCATCCACTACCTCAACCCTGATGAGTCTGCCGACACAGACCTTACACCTGCAGACCAGCCTACACCC
 CAAAACCTATCAAAGCAAAGTCCACCAAGTGTTTTGACAAGAAGTTGAAGACCTTGGAGGAGCTCTGTGA
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 GCCGCCTTCCAGTCTCTAGAAGAATGCCAATTCCTAAAGTGTTAATTAGTGTGGTTCTTACAAGTCC
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 GCAAGCCTCACAGTACCATTGAGCCCCAGGTGGTCCGGAGCAAAGCAGTCAGCCACAGGACCATCAGCG
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 TCAGTGGAAAATGCCAACCTTCTTCCCGAGACAACAGTTGTGAAGGGTTTTCCCGCTTATGAGCTGGACC
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 AGGCATAAAAAGAGGGCTGGCCAGAACGCCTTAAAATTCATCCGCCAGTACCCCTTTGCCACCCAGCCA
 TCTACTCCCTGCTCAGTGGGAGGACACTTGTGGTCTGGGGGAAGATGAGGCCATAGTCAGGAACTCGT
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 GCCACCACCTGCACCTGCCTACCCAGCAAGGAGACAGAGGAGCTGGTAGCCAGCCGACAGATGAGCTT
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 TGTATAAAATC

ACGCGTACGCGGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence: >RC212285 representing NM_144775
Red=Cloning site Green=Tags(s)

MISAPDVVAFTKEEEYEEEPYNPALPEEYSVPLFPFASQGANPWSKLSGAKFSRDFILISEFSEQVGPQ
 PLLTIPNDTKVGFDFLNYFLSRIMSDVDYQASVGHPPGSAYPKLNFVEDSKVVLGDSKEGAFAYVHHLT
 LYDLEARGFVRPFCMAYISADQHKIMQFQELSAEFSRASECLKTGNRKAFAGELEKLDLDYTRTVLH
 TETEIQKKANDKGFYSSQAIEKANELASVEKSIIEHQDLLKQIRSYPHRKLKGHDLCPGEMEHIQDQASQ
 ASTTSNPDESADTDLYTCRPAYTPKLIKAKSTKCFDKLKTLEELCDTEYFTQTLAQLSHIEHMFGRDLC
 YLLTSQIDRALLKQQHITNFLFEDFVEVDDRMVEKQESIPSKPSQDRPPSSSLEECPKVLISVGSYKS
 SVESVLKMEQELGDEEYKEVEVTELSFDPQENLDYLDMDMKGSISSGESIEVLGTEKSTSVLSKSDSQ
 ASLTVPLSPQVVRKAVSHRTISEDSEIHLSTCPSEALIPDDFKASYPSAINEEESYPDGNAGAIRFQAS
 ISPPPELGETEEGSIENTPSQIDSSCCIGKESDGLVLPSTPAHTHSDDEDGVSPPQRHRQKQDQGRVDF
 SVENANPSSRDNSCEGFPAYELDPHLLASRDISKTSLDNYSDDTSYVSSVASTSSDRIPSAYPAGLSSD
 RHKKRAGQNALKFIHQYFPAHPAIYSLLSGRTL VVLGEDEAIVRKLVTALAI FVPSYGCYAKPVKHWASS
 PLHIMDFQKWKLIGLQRVASPAGAGTLHALSRYRYTSLDLDNKTLCPLRYRGLVPRADHRTQIKRG
 STYYLHVQSMLTQLCSKAFLYTFCHHLHLP THDKETEELVASRQMSFLKLTGLV NEDVRVYQLAELLK
 LHMQESPGTSHPMLRFDYVPSFLYKI

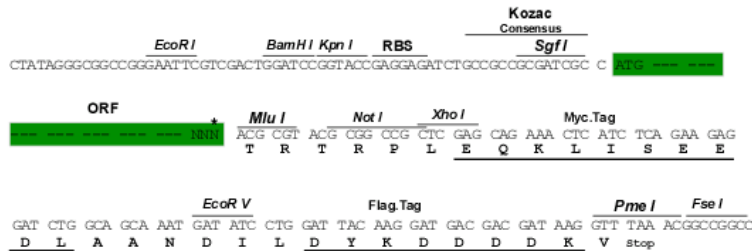
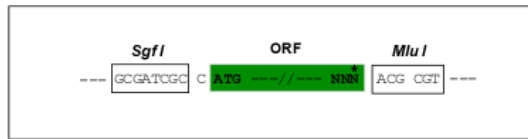
TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Chromatograms: https://cdn.origene.com/chromatograms/mk8103_f05.zip

Restriction Sites: SgfI-MluI

Cloning Scheme:

Cloning sites used for ORF Shuttling:



* The last codon before the Stop codon of the ORF

ACCN: NM_144775

ORF Size: 2811 bp

OTI Disclaimer: 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 custsupport@origene.com 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. [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_144775.3](#)

RefSeq Size: 8327 bp

RefSeq ORF: 2814 bp

Locus ID: 140775

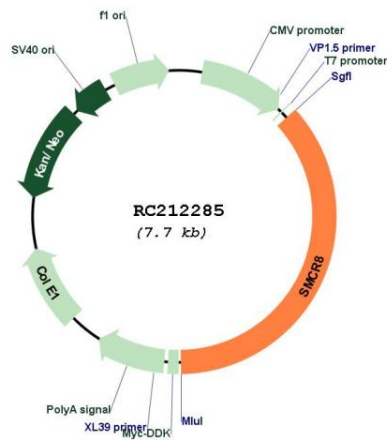
UniProt ID: [Q8TEV9](#)

Cytogenetics: 17p11.2

MW: 105 kDa

Gene Summary:

Component of the C9orf72-SMCR8 complex, a complex that has guanine nucleotide exchange factor (GEF) activity and regulates autophagy (PubMed:20562859, PubMed:27193190, PubMed:27103069, PubMed:27559131, PubMed:27617292, PubMed:28195531). In the complex, C9orf72 and SMCR8 probably constitute the catalytic subunits that promote the exchange of GDP to GTP, converting inactive GDP-bound RAB8A and RAB39B into their active GTP-bound form, thereby promoting autophagosome maturation (PubMed:20562859, PubMed:27103069, PubMed:27617292, PubMed:28195531). The C9orf72-SMCR8 complex also acts as a negative regulator of autophagy initiation by interacting with the ATG1/ULK1 kinase complex and inhibiting its protein kinase activity (PubMed:27617292, PubMed:28195531). Acts as a regulator of mTORC1 signaling by promoting phosphorylation of mTORC1 substrates (PubMed:27559131, PubMed:28195531). In addition to its activity in the cytoplasm within the C9orf72-SMCR8 complex, SMCR8 also localizes in the nucleus, where it associates with chromatin and negatively regulates expression of suppresses ULK1 and WIP1 genes (PubMed:28195531).[UniProtKB/Swiss-Prot Function]

Product images:


Circular map for RC212285