

## Product datasheet for RC215837

### Nesprin 2 (SYNE2) (NM\_015180) Human Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	Nesprin 2 (SYNE2) (NM_015180) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	SYNE2
Synonyms:	EDMD5; KASH2; Nesp2; Nesprin-2; NUA; NUANCE; SYNE-2; TROPH
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
Cell Selection:	Neomycin
ORF Nucleotide Sequence:	>RC215837 representing NM_015180 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
GCCGCGATCGCC

ATGGCATCTAGTCCTGAGCTTCCCACCGAAGATGAACAGGGTTCCTGGGGCATCGACGATCTCCATTT  
CATTGCAAGCTGAACAGGAAGACACCCAGAAGAAAGCCTTCACGTGCTGGATAAACTCACAGTTGGCCAG  
GCACACTTCTCCCTCAGTTATATCCGACCTATTCACAGACATTAAGGAGGATGTCCTCTGGATCTG  
CTAGAAGTACTTTCTGGCAACAGTTGCCTCGGGATAAAGGATCTAATACCTCCAGTGTAGAATCAATA  
TAGAACATGCCTTGACATTCCTAAGAAACCGATCAATTAAAGCTAATAAATATTCATGTTACTGATATCAT  
TGATGGAAACCCATCCATTATCCTTGGCCTAATTTGGACAATTATCCTGCACTTTTCATATTGAGAAGCTT  
GCCAGACTCTTTCTTGAATTACAATCAGCCTTCCCTGGATGATGTGAGTGTGGTTGACTCATCTCCTG  
CCTCAAGTCCCTCAGCTAAGAAATGCTCTAAAGTGCAAGCAAGATGGCAAATGCTGCAAGAAAGGCCCT  
TCTTTTGTGGGCTCAGGAACAATGCGCCACCTATGAGTCTGTCAATGTGACCGATTTTAAAGTCAAGTTGG  
AGAAATGGGATGGCTTTTTTGGCCATCATTATGCCTTGGCAGACCTAATTGACATGAAGAGTGTGA  
AGCATAGATCCAACAAGACAATCTGAGAGAGGCCTTCAGAATTGCAGAACAAGAATTAATAATCCCCAG  
ATTGCTGGAACCAGAAGATGTGGATGTTGTTGATCCTGATGAAAAGTCCATCATGACCTATGTGGCACAG  
TTTCTGCAGTATTCCAAAAGATGCCCTGGGACTGGAGAGGAGGCTCAGGGAAAGGTGAAAGATGCTATGG  
GCTGGTTAACTCTGCAAAAGGAAAACTACAGAAGTTGCTAAAGGATTCAGAGAATGATACCTACTTTAA  
AAAGTATAATAGCCTGCTGCTTTATGGAGTCATTCAATGAAGAAAAAAGTCTTTTTGGATGCTCCTG  
TCAATAAACGGGATCTGGATGAGCTGGACAAGGATCATTACAGTTGAGAGAAGCCTGGGATGGCCTCG  
ATCACCAGATTAATGCATGGAAAATAAAGCTAAATTTATGCCTTGCCCCACCCCTCCATCAAAGTGAAGC  
TTGGCTCCAGGAGGTAGAAGAGCTTATGGATGAAGATTTGTCAGCCTCCAGGATCACTCTCAAGCCGTG  
ACTCTGATACAAGAGAAAATGACTTTTCAAGAGCCTGATGGATAGATTTGAGCATCATTGCAACATTC  
TCCTTACCTTTGAAAATAAGGATGAAAATCACTTGCCATTGGTACCACCTAACAAATGGAGGAAATGAA  
AAGACGAATCAACAACATTTTGGAGAAAAATTTATTCTACTTCTAGAATTTCTACTACAAGTGCTTA  
GTTCTTGGTTGGTAGATGAAGTGAATCAAATTTGGATATTTGGAACATTAATATGGGAGCAGAGAAT



CTGTGGAATTATTGCTGGAAGACTGGCATAAATTTATTGAAGAAAAAGAATTCCTAGCTCGACTTGATAC  
 TTCTTTTCAAAAATGTGGAGAAATTTATAAGAATTTGGCTGGAGAATGTCAGAATATTAATAACAGTAT  
 ATGATGGTGAAATCTGATGTTTGTATGTATAGAAAAATATATATAATGTGAAGTCCACTCTACAAAAAG  
 TGCTGGCATGTTGGGCTACTTATGTGGAACCTTCGCTTACTAAGGGCTTGCTTTGAGGAGACAAAAGAA  
 GGAAGAAATTAAGAGGTACCCCTTGTAGACACTAGCCAGTGAATCTAGAACACGCTACTTTAAATGAA  
 GCAGGAAATTTCTAGTGAAGTCAAGCAATGATGTGGTTGGATCATCTATTTCTAAAGAACTGAGAAGGC  
 TGAATAAAAAGATGGAGAAAGTTGGTTTCAAAAACCTCAACTTGAATGAACCTGCCACTGATGATAAAAA  
 ACAGGATCAGCCACTTTTGTACAATTCTGGAAATATTCTATCTAAAGAAGAGAAAAGCAACTGTTGAGTTT  
 TCAACAGATATGTCAGTAGAACTTCTGAAAAATATAATCAAAAATATAAAGGCTGGAGAGAAACATGAAA  
 AAGAAAATGAAGAATTCACAGGGCAACTAAAAGTGGCTAAAGATGTTGAAAAACTCATTGGACAAGTGGA  
 AATCTGGGAGGCAGAAGCCAAATCTGTTTTGGATCAAGATGATGTGGACACCTCAATGGAAGAATCTTTG  
 AAGCATCTTATTGCCAAAGGCTCTATGTTTGTAGACTTATGGCAAGAAGTGAAGATATGTTACAAATGG  
 ATATACAAAATATTTCAAGCCAGGAGTCCCTTCAACATGTTCTCACAACCTGGGCTTCAGGCAAGATTCA  
 AGAAGCTAAAGAGAAAAGTCCAGATCAATGTGGTAAAACCTATTGCAGCGTTGAAGAATTAAGTACGTT  
 TCACCAGATTTGGACATCAGGCTGAAGATGGAAGAATCCAGAAGGAACCTGAATCATATATGATGAGGG  
 CTACAGCAGTTACTGGGGCAAGAGAGAGCCCGTGAACCTCATTTCAAAAACAAGGAAGCACTAATAAT  
 TTCTAATACAAAAAGTCTGGCCAAGTATTTGAAAGCTGTTGAAGAATAAAAAATATGTAAGTACTGAGGAC  
 ATAAAGATGCTTTAGAAGAAAAGAGTAGAGATGTCTGTGCCAAATGGGAGTCTCTTCATCATGAACTGT  
 CTTTATATGTTCAACAACATAAAAATAGATATTGAAAAAGGAAAGCTTAGTGACAATATTTTAAAACCTTGA  
 AAAGCAATAAATAAAGAAAAGAACTTATCCGTAGAGGAAGGACCAAGGGTCTCATCAAAGAATGAG  
 GCCTGCTTTTCTGAGGAAGGCTGCCTGTACCAGCTTATCACCACATGGAAGTCTGAGGGAGCTGTGTG  
 AAGAGCTGCCTTACAGAAGAGTCAACAAGAAGTGAAGAGACTACTCAAAGATTATGAACAAAAGATAGA  
 AAGACTTCTGAAATGTCTTCCGAGATCATATGACACTGCAGCCACAGCGGGAGGCATCGAAAAAC  
 GAGGGGACCATCACCACATCTGAGAATAGAGGAGGGGATCCCCACAGTGAGGCACCACTTTGCAAAAATCAG  
 ATAATCAGCCATCAACTGAAAAGCAATGGAACCCACTATGAAGTTTAGCCTGGCATCAGTGTAAAGGCC  
 TCTGCAAGAAGAAAGCATTATGGAAGAGGATTACAGTGCATCTATAAATAGTTTACTAGAGAGGTATGAT  
 ACATACAGAGATATTCTTGAACACCACCTGCAAAAACAACAATTCAGGATTACTTCTGATTTCTCTAGTG  
 AAGAGGACAGGAGTAGTCTTGTCTGCAGGCTAAACTGACAGATCTACAGGTCAAAAAATGAACTGA  
 TGCTCGCTGGAAGAGTTTGAATATTTTATTGAAAGTTAGAAAATCATGTGAATGACATAAAAAAGCCT  
 TTTGTAATTAAGGAAAGAGACACACTAAAGGAAAGAGAAAAGAGAGCTTCAGATGACTCTTAATACCAGAA  
 TGAATCTTTAGAGACAGCACTCGGCTTGTGTTACCTGTAGAGAAGGCATCACTTCTTCTGTGGCTC  
 GGACCTGCCTCTCCATAAAATGGCCATCCAGGGATTTATCTCATTGATGCTGATCGCATCTATCAACAC  
 CTAAGGAATATCCAAGATTCCATAGCAAAACAGATTGAAATATGTAACCGCTTAGAAGAGCCAGGCAACT  
 TTGATTAAGGAGTTACACCCATTTGATCTACACGCAATGCAGAATATTATACTGAAATACAAAACACA  
 ATTTGAAGGAATGAACCACAGGGTGCAGAGGAGTGAAGATACTCTCAAAGCTCTGGAAGACTTTTTGGCG  
 TCTCTCAGAACAGCTAAACTCTCTGCTGAGCCCGTTACAGACCTTTCAGCCTCAGATACACAGGTGGCAC  
 AAGAAAATACGTTGACAGTAAAAAATAAAGAGGGAGAAATTCATCTGATGAAAGACAAGGCCAAACATTT  
 GGATAAATGTTTGAAGATGCTCGATATGAGCTTTAAAGATGCTGAACGGGGTGTGACACCTCCTGTGAA  
 AACCTGTTGATGCTTTTTCAATAAAGTTATCTGAGACACATGGCTATGGGGTACAGGAGGAATTCAGTG  
 AGGAAAACAATACTAGAGGCTTGTATTTTCAAAAATAATGAACTCCTTAAAAATATTCAAGATGTGCA  
 GAGTCAAATCAGTAAAATTTGGTCTTAAGGATCCTACTGTTCCAGCTGTGAAAACATCGAAAAAATCATT  
 ATCAGACTGGATAAGGTTCTAGATGAATATGAAGAAGAGAAGAGACATTTACAAGAAATGGCTAATTCTC  
 TTCCACACTTCAAAGATGGCAGAGAAAAAACCGTGAATCAACAGTGCCAAAAATACAGTAGCTTTGTGGGA  
 GAATACCAAAGCCTTGGTACCGAATGTCTTGAACAATGTGGGAGAGTTTTGGAGCTCTTAAAACAATAT  
 CAGAATTTTAAAAGCATCTTGACAATTTGATTCAAAAAGAAGAGAGTGTATCTCCCTGCAGGCTTCGT  
 ACATGGGAAAGGAGAACCTGAAGAAAAGGATAGCAGAGATTGAAATGTCAAAGAAGAATTAATGAGCA  
 TTTAGAAGTTGTAGACAAGATAAACAGGTCTGCAAAAATCTACAATTTTATCTAAATAAAATGAAAAC  
 TTTGAAGAGCCCCCTTTTGAAGAGAGGCTAATATTATTGTGGATAGATGGCTTATATAAATGAGAAGA  
 CAGAAGATTACTATGAAAATCTTGGTTCAGCTCTAGCTTTGTGGGACAAACTTTTTAACTTAAAAATGT  
 CATTGATGAGTGGACAGAAAAGGCCCTTCAAAAATGGAATTACATCAATTGACTGAAGAGGACAGAGAA  
 AGGCTGAAGGAAGAATTACAAGTCCATGAACAAAAAATTCAGAAATTTCTAGAAGAGTGGCTGAAATAC  
 AGTTTTTGTCCAAAGCAGTGAATACCTCTTGAATTGCAGGTGATGGAGTCTCTATTTTGAACAAGAT

GGAAATGTACAGAAGTCTTAACAGGAGAATCCAACCTGCCATGCACTCAGTGGCAGCACTGCTGAGCTA  
 AGGGAGGATCTCGACCAAGCCAAGCCAGATCGGGATGACTGAATCCCTCTTAAAGGCCCTGTCTCCTT  
 CTGACAGCTTGGAGATCTTCACTAACTAGAGGAGATACAACAGCAGATTCTACAGCAAAAAACAGTAT  
 GATATTACTTGAGAATCAAAATAGTTGTCTGACTCCTGAACTCTCTGAATTGAAAAAGCAATATGAAAGT  
 GTCAGTGATTTATTTAATACCAAAAAAGTGTTCGCAAGATCACTTTTCTAAGTTATTGAATGATCAAT  
 GCAAGAAGCTTTAATGACTGGTTCAGCAACATTAAGTGAACCTTAAGGAGTGTTCGAATCATCAGAAAC  
 AAAAAAGAGTGTGGAACAAAAGCTACAAAACTTTCTGATTTCTTGACTCTTGAAGGAAGAAACAGTAAA  
 ATAAAGCAGGTGGACAGGCTACTGAAGCATGTGAAGAAGCATCTGCCCAAAGCACATGTGAAGGAGCTTA  
 TCAGTTGGCTCGTGGTTCAGGAATTCGAATTAGAAAAATGGAGTCCATATGCCAGGCTCGAGCAAAAGGA  
 GCTTGAAGACTCCTTGCAGCAGCTACTGAGACTCCAGGATGACCATAGAAACCTGAGGAAGTGGTTGACT  
 AATCAAGAAGAGAAAATGGAAAGGAATGGAAGAACCAGGGGAGAAAACCTGAGCTGTCTGCCAAGCTTTAG  
 CTAGAAAGAGGGAACAGTTTGAATCTGTGGCCCAATTGAACAACCTTTGAAAGGAATATGGGTTTACTGA  
 AGAAGAAGAAAATAAATGGAAGCAACATGTTTGATGGATAGATACCAGACATTACTGAGACAACAAAGT  
 GAAATCGAGGAAGAGGATAAGTTACTACCCACAGAGGACCAGAGCTTTAATGATCTTGCACATGATGTA  
 TTCATTGGATAAAAAGAGATTAAGAGTCCCTTATGGTTTTGAATTCATCCGAAGGCAAAAATGCCACTTGA  
 GGAAAGAATCCAAAAATCAAGGAAATCAATTTGCTGAAGCCTGAAGGGGATGCCAGAATAGAGACCATC  
 ATGAAGCAGGCTGAGAGCAGCGAGGCCCCGCTGGTTCAGAAGACCCTCACTGACATCAGCAACCAGTGGG  
 ACAACACACTCCATTTAGCTAGCACCTACCTAAGCCATCAAGAAAAGCTTCTACTAGAAGGAGAGAAAATA  
 TTTACAAAGTAAGGAGGATCTGAGATTAATGCTCATAGAACTAAAGAAGAAAACAGGAAGCAGGCTTTGCT  
 CTACAACATGGTCTGCAGGAGAAGAAAGCTCAGTTAAAGATTTATAAGAAATTCCTCAAGAAAGCCCAAG  
 ATTTGACATCCTTGCTAAAGGAGTTAAAATCTCAGGGAACTACCTCTTGAGTGCATAAAAATCCAG  
 CTTGAGTGAAGAGCCTTGGCTGGAATAAAGCATCTACACGAAAGTCTTCTTCAACAACCTGCAGGATTTCT  
 GTGCAAAAATGGACGGTCACTGCGAAGCAATGATTTCATACCAGTGTTCGCTCACAGACTGAATGATACTA  
 CATTGGACAATTTCTCCAAGGAATTTGTAGTTTTCTGATAAGCCTGTGGATCAAAATAGCGGTTGAGGA  
 AAAATTCAGAAAACCTGCAGGAACAGAGAAATAGACTCAGTTTACAAGATGGCACATTAAGAAGATTTTGA  
 GCTTTAGCAAAAATCCGTCAAGCAAAAATACATCTTCAAGTGGGCGAGAAGATTATTAAGATGATATAAAAAT  
 CACTTCAGTGTAACAAAAAGATTTGAAAAACAGGCTTGCATCTGCTAAGCAGGAGATGGAATGTTGTCT  
 CAACAGCATTCTCAAATCAAACGCTCAACAGAAAAGAAAAGGAAAGTTTACTCTGCCAGGCGAGAGAAAG  
 CAGGCCACTTCTGATGTGCAGGAGTCTACTCAGGAATCAGCTGCAGTGGAAAAGTTGGAGGAAGACTGGG  
 AAATAAACAGGATTCAGCTGTGGAATGGCTATGTCAAAAACACTTTCTCTAATGCTCAAGAAAGCAT  
 GAAAAACTGAAGATGAGCGGAAAGTCAATGAGCTGCAAAAATCAACCTTGAATTAGATACTATGTTA  
 AGAAATGAACAATTAGAAGAGATAGAGAAATTATATACCCAGTTGGAAGCAAGAAAGCAGCCATTAAGC  
 CACTGGAACAAACAGAATGTCTTAACAAAAACAGAACTGGGGCCTTGGTTCTCCACAATATAGGATATTC  
 GGCACAGCATTGGACAATTTGCTTCAAGCACTTATTACTTTGAAGAAAAACAAAGAAAGCCAATATTGT  
 GTCCTCAGAGATTTTCAGGAATACCTTGCTGCAGTTGAATCTTCAATGAAAGCCTTGTGACAGACAAGG  
 AAAGTCTTAAAGTAGGACCCTGGACAGTGAACGTATCTGGACAAAATTAATAAATTCATAGCATCCAT  
 AGAAAAAGAGAAAGATTTTAGCAACTTGAAAATCAATGGGAGAATTTATCAAACCAGTGAAGTGAAG  
 ATGGATAAGAAATGTTGGAAAGCCAGATTAAGCAACTGAAACATGGTTGGGAACAAGTGGAAACAGCAGA  
 TTCAAAAGAAAGTATTCTCAGCAGGTAGTGAATATGATGAATTTACAACCCTCATGAATAAGGTACAGGA  
 CACTGAGATTTCTGCAACAGCAGCAGCAACATCTACAGTTAAGGCTGAAGTCTCCAGAAGAACGGGCA  
 GGAACCAAAAGCATGATTGCCTTGACCCTGACCTCCAGGCTACCAAGCATGGATTTTCTGTTTTAAAGG  
 GGCAAGCTGAACTTCAAGTGAAGAGGATTTGGGGAGAAAAGAAAAGAAATTTGGAGGATGGAATAAA  
 TAACCTGAAGAAACAATGGGAAACATTGGAGCCATTACACTTAGAAGCAGAAAATCAGATTAAGAAGTGT  
 GACATAAGGAACAAGATGAAAGAGACTATCTTATGGGCCAAGAATTTGTTGGGTGAACCTAATCCCTCCA  
 TTCCCCTTCTCCAGATGACATTTCTTACAGATCAGAAAGTGAAGTGAACATGATGGCATTCTAGC  
 TAGGCAGCAGTCTGTGGAATCGTTGGCTGAAGAGGTCAAAGATAAGGTTCTAGCCTTACAACCTATGAG  
 GGCAGTGATTTAATAATACCCTAGAGGACTTACGGAATCAATACCAATGCTGGTTTTAAATCAACTC  
 AAAGATCACAGCAATTAGAATTTAAGTTGGAAGAAAGAAGCAATTTTTTGTCTATAATAAGGAAGTTTCA  
 ACTTATGGTTCAAGAAAGTGAACAACACTGATAATCCCAGGGTGGAGACAGCTGCCACGGAAGCTGAACTA  
 AAACATCACCATGTTACTTTGGAGGCATCTCAGAAGGAATGCAAGAAATGACAGTGGAAATCTCAACAC  
 ATCTTCAGGAGCTAACAAACATCTATGAGGAGCTGAATGTGTTTGAAGATTAATTTCTGGAAGATCAGTT  
 GAAAAATCTTAAGATTAGGACCAACAGAATACAAAGATTCAATTCAGAATACATGTAATGAAGTGAACAC

AAGATAAAGTTTTGCAGACAATTCATGAAAAACATCAGCGCTTCAGGAGGAGGCTGACAGTATACAGC  
GCAATGAACTATTAATCAAGAAGTAAATAAAGGTGTTAAAGAGGAGATCTATAATCTTAAAGACAG  
ACTCACCCTATTAAGTGTTCATCTTACAGGTATTGAACTTAAAAAGTGTGGACTATATTGGACTA  
AACTGGGATTTTCACACTTGACCAATTAACAACCAAGTATTTGAAAAAGAAAGGAAGTGAAGAAA  
AAATTAAGCAGTTGGACACATTTGAGGAAGAATGGCAATATCAGGCATTATTAAGTAAATGAGAGC  
TATTGATTTGCAAAATTAAGAAAATGACTGAAGTAGTACTAAAAGCTCCTGATAGCTCTCCGAAAGCAGA  
CGGCTCAATGCCAAATTTAAGTCAGAGAATTGAGAAAGCAAGTGTATGTGATGAGATAAAGA  
AATTAATGAAAAAAGACCTTTGATGACTCATTCAAGGAGAAAGAAATCTACAAATAAAGCTGAATGC  
AGAAGAAAATGATAAGTTATACAAAGTTCTCCAAAACATGGTATTAGAAGTCTCACCAAAAAGAAATTGGAT  
GAAAAGAATTGTCAGGACAACTAGAAACTTCTTACATGTTTTAAATCAGATAAAATCTCAATTACAGC  
AGCCATTACTTATAAATTTGAAATTAACATATTCAAAATGAAAAGGACAATTGTGAAGCATTTCCAGGA  
GCAAGTTTGGGCAGAAATGTGTAGTATTAAAGCTGTGACTGCTATTGAGAAACAAAGAGAAGAAAATCT  
TCTGAAGCGAGTGTGGAGACAAAACACGTGAGTTTGAAGATCTTACAGTGCAGCTTAACACAAGCA  
TTGATTTGCGCACAAATGCTTGAATGATGCTTATGAAAATCTAACACGCTATAAAGAAGCAGTCACCAG  
GGCAGTGGAGAGCATCCTTCCCTCGAAGCCATCATTATACCCTACAGAGTAGATGTTGGTAAATCCAGAA  
GAATCTTTAGAGATGCCTCTTCGAAAACAAGAGGAATTGGAATCCACAGTAGCACACATCCAGGACCTCA  
CTGAGAAAAGTGGGAATGATATCCAGCCCCGAAAGCCAAAACATACTTCACTTATACAGGAAGTGT  
TTCTAAGAAGTCAAGCAATGAAGGAAGCTTTCAAAGCACAGGAACTGAGGCAGAAAGGTATCTTGAGAA  
TACAAATGCTATAGAAAAATGGAAGAGGATATTTACACTAACCTCAGCAAAATGGAGACAGTTCTTGGAC  
AGTCCATGTCTCGTGGCACTGTCTTACAGAGAAGCTTTAGAGCGCTTGGAACAGAGCAAGGCCTTGGT  
GTCAAATCTTATATCAACCAAAGAAGAGTTAATGAAACTACGACAGATCCTTAGACTCTTGAAGTCTCAG  
TGCACAGAAAAATGATGGCATATGTTTGTCAAGATTGTGTCGGCTCTGTGGGAGAAATGAGTGTGGT  
TGAAGTCTGCTAAAGAGTGGGAGATGTGGTGGCAAGAACTGAAGCAGGAATGGAATTTGTCAAGTGAAGA  
AATTGAACGAGAGGCAATTTATTTAGATAATCTTCAAGAACTCCCTGAAATTTCCAAAACAAGAG  
GCAGCCACCACAGAGGAAGTCTCTGAGCTGCTAGACTGTTTATGCCAATATGGAGAGAAGCTGGAGAAGC  
AACAGCTGTTACTGACTCTACTTCTCAGCGCATCAGAAGTATCCAGAATGTTCTGAAAGCTCAGGGGC  
TGTGGAAGTGTCCAGCATTTCAAGAAATTACTTCTATGAAAGAAGCAGTGAACAAGCTTCTTCAAGAA  
GTTTCAAGAAATTAAGAAATTTGGTGCAGACTGAAATCCAAGAAAGACATTCCTTCAAAAAGAGATAATTG  
CTTTGAAGAAATTTCTTCAACAGACCACAACCTTCACTTCAAAAATATGGCATTCCAGGATCACCCAGAAA  
GTCAGAACAATTTGAGGAGCTTCAAAGCATCCTTAAGAAAGGAAACTAAGTCTTGAAGTATTATGGAA  
AAACTGCGAATCAAGTATTCGAAATGTACACCATAGTCCCTGCAGAGATTGAATCCAGGTGGAAGAAT  
GCAGAAAAGCTTTAGAAGACATAGATGAGAAGATTAGCAATGAAGTCTTAAAAAGCTCACCATCATATGC  
AATGAGGAGAAAAATAGAAGAAATTAACAATGGGCTTCATAATGTTGAAAAGATGTTGCAGCAGAAAAGC  
AAAAATATTGAGAAAGCTCAAGAAATTCAAAAGAAAATGTGGGACGAGTTAGATCTATGGCATTCCAAAC  
TAAATGAGCTGGATTCTGAAGTTCCAGGACATTGTTGAACAGGACCAGGACAGGCTCAAGAAATGGATGGA  
TAACTTGATGATTCCTTCCAGCAGTATCAGCAAGTATCAGAGAGCAGAGTGTAGAAGTCAAGTGTG  
AATAAGGCCACAGTTAAGATGGAGGAATATAGTGACCTTCTGAAGAGCACTGAGGCTTGGATAGAAAATA  
CCAGTCATTTGCTGGCCAATCCTGCTGACTATGACTCTTTGAGGACACTGAGTCACCATGCTAGCACTGT  
GCAGATGGCTTTGGAAGATTGAGAAGCAAGCAATCTTTACATTCAATCTTTATGGATCTAGAAGAC  
CTGTCAATAATTTTGAACAGATGAATTAACCAATCCATACAAGAGTTAAGTAAATCAAGTAAACAGCTT  
TACAACAAAAAATTAAGGAAAGCCTTCCACAGATTCAGCGAATGGCTGATGATGTGGTGTCTATTGAATC  
TGAAGTAAATCAATGGAAGAAAGGTTTCAAAAATCAAACTATCCTATTATCAAAAAGAAATTTTGTGAT  
TTTTACCTGAAGAACATCTCAACATGGGAGGTCATACTTGAAAAATACGTCCCATGAAGAAAACCA  
TTGCTGAGATAGTGTCTTACCAAGTGGAACTGAGGTTGCCCAACAGGAATGAAACCTCTGCCTGTGTT  
TCAGCGGACAAAATCAGCTTTTACAAGATATAAACTATTGAAAATGTGACTCAAGAACAAAATGAGTTA  
TTAAAGGTAGTCATAAAACAGACCAATGAATGGGATGAAGAAATAGAAAATTTGAAACAGATCTTAAATA  
ATTATTCAGTCAAGTCTCCCTTGAACATATGTCACCAGACCAAGCTGACAAGCTGCCACAACACTACAGGG  
AGAAATCGAACGTATGGAGAAACAGATTCTGAGTTTGAACCAGAGAAAAGAACCTGTTGGTGGACTTG  
AAGGCCACCGTACTAAACCTTACCAGCATTTGAAGCAAGAACAAGAGGAGTAGAAAGAGATAGGCTGC  
CAGCTGTAACATCAGAGGAAGGTGGAGTGGCAGAGAGGGATGCTTCTGAGCGGAAGTTGAACAGAAGAGG  
CTCCATGTCTTACCTGGCAGCAGTCGAGGAAGAGGTGGAAGAAAGTTCCGTGAAGAGCGATAATGGAGAT  
GAGAAGGCAGAGCCATCGCTCAGTCTTGGTCTTCACTTTGGAAGCATGACAAGGACATGGAAGAAGACA

GAGCTTCCTCATCCTCTGGAACAATTGTTCAAGGAGCATATGGGAAAATAAGCACCTCTGATAATCCAT  
GGCACAATCCTCACACCAGACTCACTAAACACTGAGCAAGGCCAGAATGTTCCCTAAGGCCAACCAA  
ACAGAAGAGGGCACCACACCTCTATTGAGGCTGACACTCTGGACTCTTCTGACGCGCAAGGAGGTTTG  
AGCCCAGGTGGAGAAAAGTGGCCGAGCCACAGAAGTCTGCATGCCTGCAAGACCCAGGTGGCCGA  
GCTGGAGCTGTGGCTGCAACAAGCCAACGTGGCAGTTGAGCCGGAACATTAACGCAGACATGCAGCAG  
GTGCTGGAACAGCAGCTGGTAGGGTCCAGGCTATGCTAACAGAGATTGAGCACAAGGTTGCCTTTCTGT  
TAGAGACTTGCAAAGATCAGGGCTGGGAGATAATGGAGCCACTCAACATGAGGCTGAAGCGCTTCCCT  
GAAACTGAAAACAGTGAAGTGAATTTAGAAAAAGTCCAGATGATGCTTCCAGGAGAAGCACAGTGAAGAT  
CAGCATCTACCATTCTAAAGAAATCCTCAGAGCCAGAGCATCAAGAAGCTCTCCAACCAGTTAACCTTT  
CTGAATTGGAATCCATTGTAACGAAAGGCCACAATTCAGCAGACAAAAAGATTTCCAGCAGCAACAGGT  
TCTGGAGTTAAAACCAATGGAACAGAAAGATTTTCATCAAATTCATAGAATTTAATGCTAAGAAAAATGTGG  
CCCCAGTATTGCCAATGATAACGATACTCAGGAATCATCTGCAAGCAACCAGGCATCCAGCCCTG  
AAAATGACGTTCCAGACTCGATCTTGTACCCAGGGCCAAAATGGAGATAAGTGGCAATATCTGCATCA  
TGAACTCTCATCAAAAATAAGCTCCACTCCCTCAGCTTGTGGAGCCTCAGGTTCCACAATATGGGT  
ATTCTACCCAGCGTGACTATGTATAACTTTAGATACCCAACAACGAAGAAGTGAACCTATACCACCC  
AACTTGAAGACCTGCGCCAAGAAGCAAGTAACTTCAGACACAGGAAAATATGACAGAAGAGCATATAT  
CAATTTGGATAAAAAATGTTTGAATTTCTGACCCTCAGTCAGTGCCTCAGCAGTGTGGAGGAGATG  
CTGGAGATGCCAGACTTTACAGGGAGGATGGTTCTGGCCAGCAGGTGCACTACGAGACGCTGGCTCTTG  
AGTTGAAGAACTTTATTTAGCGCTAAGTGACAAGAAGGGTGATCTTTTGAAGCCATGACTTGGCTGG  
CGAGAACCAACTTGTCTCTTGAATGTTTTGACAACCTCAAGTCTGCCTGGAGCACACTCAGGCTGCA  
GCTGTCTGTAGAAGCAAGTCCCTGAAAGCTGGCCTCGATTACAACCGCAGTTACCAGAATGAAATAAAGA  
GATTATATCATCAGCTCATTAAAGTAAGACATCTTTACAACAGTCTTTGAATGAAATCAGTGGGAGAG  
TGTTGCTGAACAGCTTCAGAAAGCAGATGCATATACAGTGGAGCTGGAGAACCCGAGAGCCGAGGCC  
AAACTAAGAGATGAAGGGGAGAGGCTTACCTTTACCTTATGCTTTACTCCAGGAGGTTTACAAATTAGAGG  
ATGTACTTGACAGTATGTGGGAATGCTAAGAGCCAGGTACACAGAAGTACAGCAGCCCTTCGCTACTGA  
GAGCCAGCAAGATGCTTTGTTGCAAGGCATGGTGAAGTGGGAAGGAAAAGCTTGTCTCAT  
GGCCACTTAAAACAAAACAAAAGTAAAGTGGCGTTACAGGCTCAAATAGAAAATCACAAGTTTTTTTTCC  
AGAAGCTTGTGCTGACATGTTGTTGATCCAAGCATACTGCCCCAAAATACTTCTTCTTTATTGCAAAA  
CAGAGAGACATTTGGGCAGAACAAGTAAACAGAAGTAAAATACTAGAAGAAAAGTACGCCAATGTGGT  
ATGAAGCTGCAGAGTTTGTGCAAAAATGGGAAGAATTTGATGAAAATATGCATCTCTTGAAGGACC  
TGGAAATCTTATATCTACATTGCCCTCTGTGAGTTTGGTGAAGAAAACAGAGGAAAGATTAGTGGAAAG  
GATTTCAATTTTACCAGCAATAAAAAGAAAACATTTGGTGGAAAACACGCCCGCTTTACCAAACCTGAAAC  
GAAGGCAAAACAGTTGGTGGCGTCTGTGAGCTGTCTGAATTAGAGGGCCAGATCGAAAACCTGGAAGAGC  
AGTGGTTGTCCCTGAACAAGAAAATGACCATGAGCTCCACAGGCTGCAAGCTCTTCTCAAGCATCTGCT  
CAGTTATAACAGAGATTCGGATCAGTTAACCAAGTGGTTGGAATCTTCCCAGCATACTCTGAATTACTGG  
AAAGAACAGTCCCTCAATGTGTCTCAGGACTGGATACAATCAGAAGCAACATCAACAATTTTTTTGAGT  
TTTTCAAAAAGTGTGATGAAAAATCCTCCTTGAAGACTGCCGTTATCAGTATCGGGAACCCAGCTTCTTCA  
CCTGAAAGAACTGATACAGCTACACTGAGAGCTTCTTTAGCACAGTTTGAACAAAAATGGACAATGCTC  
ATAACTCAACTTCCAGATATTCAAGAAAAACTTACCAGCTTCAAATGGAGAAAATGCCGCTCGTAAAG  
CAATCACAGAAAATGATTAGCTGGATGAACAATGTGGAGCATCAAACCTCAGATGAAGACTCCGTGCATTC  
ACCAAGTTCTGCATCTCAAGTTAAACATCTTCTCAGAAGCACAAGGAGTTTGAATGGAATGGACTAT  
AAACAGTGGATAGTTGACTTCGTTAACCAGTCATTACTTCAGCTAAGCACCTGTGATGTAGAAAAGCAAGC  
GCTATGAAAGAACGGAGTTTGCAGAGCACCTGGGGGAGATGAACCCAGTGGCACCGTGTACATGGAAT  
GCTGAATAGAAAGATAACAATTTAGAACAACCTTAGAAAAGTACTACTGAGAGTAAAAATAAATACAG  
ATCTTGAACAACCTGGCTGGAAGCACAAGAAGAGAGACTGAAAACCTTACAAAAACCTGAAAGTGTGATCT  
CAGTGCAGAAGCTGCTCCTGGACTGTGAGGATATAGAAAATCAACTTGAATTAATCCAAAGCACTAGA  
TGAGTTGAAACAAAGTTATCTGACTTTGGAGAGTGGGCGAGTCCATTGTTAGAAGATACAGCATCCCGA  
ATTGATGAGTTATTTCAAAGAGAAGCAGTGTCTCACTCAGGTCAATCAGCTCAAACCTCCATGCAGT  
CAGTTTTACAGGAGTGGAAAGATTTATGATCAACTCTATGATGAAGTGAATATGATGACAATCCGATCTG  
GACTGCTGGAACACAGCAAGCCTGTGGTGTATCATTGGAGACCTTGAGATGCCAGGTGGAGAACCTT  
CAGTCTCTGCAAGATGAAGCTGAGAGCAGTGAAGGGAGTTGGGAGAAAACCTCAGGAGGTTATCGGCAAC  
TCAAAGTCTCTGCCCTCTGTTGCTGAAATAATCGAAGAGAAAATGCCAAAATACTATAAAAGTGGAC

TCAGGTGAACCAAGCCATTGCAGACCAGTTGCAGAAGGCCAGAGTCTGCTCCAGCTCTGGAAGGCCTAT  
 AGCAATGCTCATGGTGAAGCTGCCGCAAGGCTGAAGCAGCAGGAAGCAAAGTTTCAACAGCTCGCAAACA  
 TCAGCATGTCTGGAAACAACCTGGCAGAGATCCTGCCCCAGCCCTGCAGGACATAAAGGAGCTGCAGCA  
 TGATGTGCAGAAAAAAAAGAAGCCTTTCTCAAAAATCCAGTGTCTGGATCGACTCCCACAACCCGCA  
 GAGTCCAGCACCCACATGCTCCTCCCGGGCCCCCTGCACTCTCCTCAGAGGGCTGCTTATTTGGAAAAGA  
 TGCTGCTTGTGAAAGCAAATGAATTTGAGTTTGTCTCTCACAGTTTAAGGATTTTGAGTCCGGCTGGA  
 ATCTTTAAAAGGCTTATTATGCATGAAGAAGAGAATTTGGATAGACTTCAACAACAGGAAAAAGAAAAA  
 CCTGACTCATTCCCTGAATCATGTCTGGCACTGACAGCCCAATCACCTGATATTGAACATTTGAATGAAG  
 TGAGCCTCAAGCTCCCACTTAGTGACGTAGCTGTGAAGACGTTACAAAATATGAACCGGCAATGGATTCTG  
 GGCCACGGCCACGGCACTGGAGCGCTGCAGTGAGCTTCAGGGAATTGGATTGAATGAAAAGTTTCTTTAT  
 TGCTGTGAAAAGTGGATCCAACCTTTGGAGAAGATAGAAGAAGCACTCAAAGTGGATGTGGCTAACAGCC  
 TTCCTGAGCTCCTGGAGCAGCAGAAAACCTATAAGATGTTAGAAGCTGAAGTTTCTATAAACAGACAAT  
 TGCTGATTCTATGTCACCCAGTCTTACAACCTCTGGACACAACAGAAATAGAGAACAGACCAGAATTT  
 ATTACAGAATTCTCAAAGCTGACGGATCGGTGGCAGAATGCTGTCCAGGGTGTTCGGCAGAGGAAGGGTG  
 ACGTTGATGGGCTGGTGGGCAGTGGCAAGATTTCACTACTTCTGTGGAGAACTGTTTCGCTTCTCTCAC  
 TGACACCAGCCACTGCTATCTGCAAGTGAAGGGCCAGGAGCGCTTCAGCCTCTACCAAACAGAAAGTCTG  
 ATCCATGAGCTGAAGAATAAAGAAATTCATTTTCAAAGGAGGCGAACTACCTGTGCCCTAACCTTGAAG  
 CTGGAGAAAAGTTACTGCTCACAACCTGACCTGAAAACCTAAAGAGTCTGTGGGTAGGAGAATCAGTCAACT  
 TCAGGACAGCTGGAAAGACATGGAGCCCAAGCTGGCAGAGATGATTAAGCAGTTCAGAGCACTGTAGAG  
 ACCTGGGACCAGTGTGAAAAGAAAATCAAGGAGTTGAAAAGCAGGCTGCAAGTTTAAAGGCACAAAAGTG  
 AAGATCCTCTCCAGAGCTTACGAGGACCTCCATAACGAAAAGAGCTGATTAAGGAACTAGAACAGCT  
 TTTGGCTAGCTGGACTCAGAACTGAAAAGAACTCAAACATGAAGGCGGACTTAACCCGGCAGCTTCTC  
 GTGGAAGATGTGATGGTTTTGAAGGAGCAATAGAGCATTGTCACAGACAATGGGAGCACTCTGCTTTAA  
 GGGTGGCCATACGTAAACAGGAGATTGAAGACAGACTCAATACATGGGTTGTATTAATGAAAAAAAATAA  
 AGAGTTGTGTGCCTGGCTGGTGCAGATGAAAAACAAGTTCTACAGACAGCGGACATTAGTATTGAAGAA  
 ATGATTGAAAAGTTACAGAAGGACTGCATGGAAGAAAATAAAGTTGTTTAGTGAACAAGTTACAGTTAA  
 AGCAGATGGGTGACCAGTTGATCAAGGCCAGCAACAAATCAAGAGCAGCTGAGATCGATGACAAGCTCAA  
 CAAAATTAACGATCGTTGGCAACATCTTTTGTGTCATCGGATCAAGGGTGAAGAAGCTGAAGGAGACC  
 TTTGCTTTTATTCAGCAGTTGGACAAAACATGAGCAACCTTCGCACCTGGTTGGCTCGAATTGAGTCTG  
 AGCTTTCAAGCCTGTTGTTTATGATGTCTGCGATGATCAAGAGATCCAGAAGAGGCTCGCTGAGCAGCA  
 GGATCTACAGCGAGATATTGAACAACACAGCGCAGGGGTGGAGTCCGTGTTTAAACATCTGTGACGTCTA  
 CTGCACGACTCCGATGCCTGTGCAAATGAGACCGAGTGTGACTCGATCCAGCAGACCACAGGAGCCTGG  
 ACAGACGCTGGAGGAACATTTGTGCCATGTCCATGGAGCGGCGCATGAAAATCGAGGAGACGTGGCGCCT  
 GTGGCAGAAGTTTTTAGACGACTATTCTCGCTTTGAGGACTGGCTCAAGTCAGCTGAGAGGACGGCAGCC  
 TGCCCAAATTCCTCAGAGGTGTTGTACACGAGTGCCAAAGAGGAACTGAAGAGGTTTGGAGCCTTTCAGC  
 GGCAGATTCATGAGCGGCTCACTCAGCTGGAGCTCATCAACAAGCAGTACCGGCGGCTGGCCCGGGAGAA  
 CCGCACAGACACGGCCAGCAGGCTGAAGCAGATGGTCCACGAGGGCAACCAGCGCTGGGACAACCTTCAG  
 AGGCGGGTACAGCCGTCTGCGGAGACTCAGGCATTTCAACAACAGAGGAAGAATTTGAGGGCACCA  
 GGGAGAGCATTCTGGTGTGGCTCACAGAGATGGACCTGCAGCTGACCAACGTGGAGCACTTCTCAGAGAG  
 TGACGCCGATGACAAGATGCGCCAATGAATGGCTTCCAACAGGAAATTACATTAATACCAACAAGATT  
 GATCAGCTCATTGTGTTTGGGAGCAGCTGATTCAGAAGAGCGAGCCCTGGATGCTGTGCTGATTGAGG  
 ATGAGCTGGAGGAACTCCACCGCTACTGCCAGGAGGTGTTTGAAGGGTCTCCCGGTTCCACCGCGGCT  
 CACCTCTGCACTCCGGGCTTGAAGAATGAAAAGGAGGCTCTGAGAATGAAACAGACATGGAAGACCCC  
 AGAGAAATCCAGACTGATTTTGGCGTAAACGGGGAGAGAGCGAGGAACCGTCATCTCTCAGTCCCTGT  
 GTCATCTAGTGGCCCAGGGCACGAGCGGTCTGGCTGCGAGACCCTGTCAGCGTGGACTCCATCCCCT  
 GGAGTGGGACCACAGGCGACGTGGGGGCTCCTCCTCTCACGAAGAGGACGAGGAGGGCCATACTAC  
 AGCGCACTGTGAGTAAATCCATTTTCGGATGGCCACTCGTGGCATGTTCCCGACAGCCCTTCTGTCCCG  
 AGCATCACTACAAGCAAATGGAAGGTGACAGGAATGTTCCACCTGTTCCCTGCGTCCAGCACCCCTTA  
 TAAACCACCTATGGAAGCTACTATTACCTCCAGGCACGGATGGTGGCAAAGAAGGCCCGGAGTCCCTG  
 AATGGCAACCCACAGCAGGAAGACGGGGGACTGGCCGGTATCACAGAGCAGCAGTCAAGTGCCTTCGACA  
 GATGGGAGATGATTCAAGCACAGGAGCTTCAAAATAAGCTCAAAAATAAAACAAAATTTGCAACAGCTGAA  
 CTCTGATATCAGCGCCATCACTACTTGGCTGAAAAAACTGAAGCAGAGCTGGAATGTTAAGATGGCA

AAGCTCCCTCTGATATCCAGGAAATAGAACTGAGAGTGAAGAGACTGCAGGAGATACTGAAAGCCTTTG  
 ACACCTACAAGGCATTAGTGGTCTCTGTCAACGTGAGCAGCAAGGAATTTCTGCAAACCGAGAGCCCCGA  
 ATCCACAGAGCTCCAAAGTAGACTCCGCCAGCTGAGCCTGCTCTGGGAAGCAGCACAGGGCGCAGTGGAC  
 AGCTGGAGAGGGGGCTTACGACAGTGCCTCATGCAGTCCAGGACTTCCACCAGTTGAGTCAAAATCTGC  
 TGCTGTGGTTAGCGAGTGCCAAGAACCAGGAGCAGAAGGCTCATGTCACCGATCCAAAGGCAGACCCCCG  
 GGCTCTCTAGAGTGTGCGAGGGAATGCAACTGAAAAGGAGCTGGTAGAAGCTCAACCTCAAGTG  
 GACATGTTACAGGAGATTTCAAACAGCTTCTCATTAAAGGGACATGGAGAAGACTGTATTGAAGCTGAAG  
 AAAAGGTGCATGTTATTGAGAAGAACTCAAACAGTTACGGGAGCAAGTGTCCAAAGATTTAATGGCCTT  
 GCAGGGAACCCAGAACCAGCCTCACCCCTGCCAGCTTCGACGAGGTAGACTCGGGGGACCAGCCTCCT  
 GCAACATCCGTGCCAGCTCCCCGAGCAAAGCAGTTCAGAGCAGTGAAGTACAGAAGGCGAGGAGGAGA  
 CAGAGAGCAGGGTCCCCGGCAGCACACGGCCACAGCGCTCCTTCTCTCAAGGGTGGTCCGGGCAGCCCT  
 ACCCTGCAGCTGCTCCTCTGCTGCTGCTCCTGGCCTGCCTGCTGCCCTCCTCCGAAGAAGACTAC  
 AGCTGCACTCAGGCCAACAACTTGCCCGGTCTTTTACCCCATGCTGAGGTACACCAATGGGCCACCC  
 CCACA

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT  
 ACAAGGATGACGACGAT AAGGTTTAA

**Protein Sequence:**

>RC215837 representing NM\_015180  
 Red=Cloning site Green=Tags(s)

MASSPELPTDEDEQGSWIDDLHISLQAEQEDTQKKAFTCWINSQLARHTSPSVISDLFTDIKKGHVLLDL  
 LEVLSGQQLPRDKGSNTFQCRINIEHALTFLNRNSIKLINIHVTDIIDGNPSIILGLIWTIILHFHIEKL  
 AQTLSCNYNQPSLDDVSVVDSSPASSPPAKKCSKVQARWQMSARKALLLWAQEQCATYESVNVTFDKSSW  
 RINGMAFLAIIHARLPDLIDMKSVKHSNKDNLREAFRIAEQELKIPRLLEPEDVDVDPDEKSIMTYVAQ  
 FLQYSKDAPGTGEEAQGKVKDAMGWLTLQKEKQLKLLKDSNDYTFKKYNSLLSFMESFNEEKSFLDVL  
 SIKRDLDELDDKHLQLREAWDGLDHQINAWKIKLNYALPPPLHQTEAWLQEVEELMDEDLASQDHSQAV  
 TLIQEKMTLFKSLMDRFEHHSNILLTFENKDENHPLVPPNKLEEMKRRINNILEKFFILLLEFHYKCL  
 VLGVLVDEVKSKLDIWNKYGSRSEVELLEDWHKFIEEKEFLARLDTSFQKCGEIKYKLAGECQNKQY  
 MMVKSDVCMYRKNINYNKSTLQKVLACWATYVENLRLLRACFEETKKEEIKEVPFETLAQWNLEHATLNE  
 AGNFLVEVSNDDVVGSSISKELRRLNKRWRKLVSKTQLEMNPLMIKKQDQPTFDNSGNILSKEEKATVEF  
 STDMSVELPENYNQNIKAGEKHEKENEFTGQLKVAKDVEKLIQVEIWEAEAKSVLDQDDVDTSMEESL  
 KHLIAKGSFDELMAISEDMLQMDIQNISSQESFQHVLTGGLQAKIQEAKQVQINNVKLI AALKNLT DV  
 SPDLDIRLKMEESQKELESYMMRAQQLLQRESGELISKHKEALIIISNTKSLAKYLKAVEELKNNVTED  
 IKMSLEEKSRDCAKWSLHHEL SLVYVQLKIDIEKGLSDNLIKLEKQINKEKLI RRGRTKGLIKEHE  
 ACFSEEGCLYQLNHHMEVLRCEELPSQKSQQEVKRLLDYEQKIERLLKCASEIHMTLQPTAGGTSKN  
 EGTITTSENRGGDPHSEAPFAKSDNQPSSTEKAMEPTMKFSLASVLRPLQEESIMEKDYSASINLLERYD  
 TYRDILEHHLQNNKFRIITSDFSSEEDRSSCLQAKL TDLQVIKNETDARWKEFEIISLKL ENHVNDIKKP  
 FVIKERDTLKERERELQMTLNTRMESLETALRLVLPVEKASLLLCGSDPLPHKMAIQGFHLIDADRIYQH  
 LRNIQDSIAKQIEICNRLEEPGNFVLKELHPFDLHAMQNIILKYKTQFEGMNRVQSRSEDTLKAEDFLA  
 SLRTAKLSAEPVTDLSASDTQVAQENTLTVKNKEGEIHLMKDKAKHLDKCLKMLDMSFKDAERGGDTSCE  
 NLLDAFSIKLSETHGYGVQEEFTEENKLEACIFKNNELLKNIQDVQSQISKIIGLKDPTVPVAVKHKRKS  
 IRLDKVLDEYEEKRLHLEMANSPLPHFKDGREKTVNQCCQNTVVLWENTKALVTECLEQCGRVLELLKQY  
 QNFKSILTTLIQKEESVLSLQASYMGKENLKKRIAEIEIVKEEFNEHLEVVDKINQVCKNLQFYLNMKT  
 FEPPPEKEANIIVDRWLDINEKTEDYENLGRALALWDKLFNLKNVIDEWTEKALQKMLHQLTEEDRE  
 RLKEELQVHEQKTEFSRRVAEIQFLLQSSEIPLLEIQQILQKQKSMILLENQIGCLTPELSELKKQYES  
 VSDLFNTKKSVLQDHFSLKLLNDQCKNFDFWFSNFKVNLKECFESSETKKSVEQKQLKLSDFLTLEGRNSK  
 IKQVDSVLKHVKKHLPKAVKELISWLVGQEFELEKMESICQARAKELEDLQQLLRLQDDHRNLRKWL  
 NQEEKWKGMEEPGEKTELCQALARKREQFESVAQLNNSLKEYGFTEEEEIMEATCLMDRYQTLRLQLS  
 EIEEEDKLLPTEDQSFNDLAHDVIHWIKIEKESLMVLNSSEGKMPLEERIQKIKEIILLKPEGDARIETI  
 MKQAESSEAPLVQKTLTDISNQWDNTLHLASTYLSHQEKLLLEGEKYLSKEDLRLMLIELKKKQEA  
 LQHGLQEKAQLKIYKFLKKAQDLTSLKELKSQGNLLECTKNPSFSEEPWLEIKHLHESLLQQLQDS

VQNL DGHVREHDSYQVCVTDLNTTLDNF SKEFVSFSDKPV DQIAVEEKLQKLQEL ENRSLQDGT LK KIL  
 ALAKSVKQNTSSVGQKI IKDDIKSLQCKQKDL ENRLASAKQEMECCLNSILKSKRST EKKGKFTLP GREK  
 QATSDVQESTQESA AVEKLEEDWEINKDSAVEMAMSKQLSLNAQESMKNTE DERKVNELQNP LE DTM L  
 RNEQLEEEIEKLYTQLEAKKAAIKPLEQTECLNKTETGALV LHNIGYSAQHLDNLLQALITLKKNKESQYC  
 VLRDFQEYLA AVESSMKALLTDKESLKVGPLDSVTYLDKIKKF IASIEKEKDSLGNL KIKWENLSNHVTD  
 MDKLLLESQIKQLEHGWEQVEQQIQKKYSQQVVEYDEF TLMNKVQDTEISLQQQQHLQLRLKSPEERA  
 GNQSMIALTTDLQATKHGFSVLKGQAE LQMKRIWGEKEKNLEDGINNLKQWETLEPLHLEAENQIKKC  
 DIRNKMKETILWAKNLLGELNPSIPLLPDDILSQIRKCKVTHDGILARQQSVESLAEVVKDKVPSLTTYE  
 GSDLNNTLEDLRNQYQMLVLKSTQRSQQLEFKLEERSNFFAIIRKFQ LMQESETLIIPRVETAATEAEL  
 KHHHVTLEASQKELQEIDSGISTHLQELTNIYEELNVFERLFLEDQLKNL KIRTNRIQRFIQNTCNEVEH  
 KIKFCRQFHEKTSALQEEADSIQRNELLNQE VNKGVKEE IYNLKDRLTAIKCCILQVLK LKVFYD YIGL  
 NWFDSQLDQLQTQVFEKEKELEEKIKQLDTFEEH GK YQALLSKMRAIDLQIKKMT E VVLKAPDSSPESR  
 RLNAQILSQRIEKAKCLCDEI IKKLNENKTFDDSFKEKEILQIKLNAEENDKLYKVLQNMVLELSPKELD  
 EKNCQDKLETSLHVLNQIKSQLQOPLLINLEIKHIQNEKDNCEAFQEQVWAEMCSIKAVTAIEKQREENS  
 SEASDVETK LREFEDLQMLNTSIDLRTNVLNDAYENLTRYKEAVTRAVESITSL EAIIPYRV DVG NPE  
 ESLEMP LRKQEELESTVAHIQDLTEKLGMISSPEAKLQLQYTLQELVSKNSAMKEAFKAQETEAERYLEN  
 YKCYRMEEDIYTNLSKMETVLGQSMSSPLSYREALERLEQSKALVSNL ISTKEELMKLRQILRLLRLR  
 CTENDGICLLKI VSALWEKWL SLLEAAKEWEMWCEELKQEWK FVSEEIEREAIILDNLQEELPEISKTK E  
 AATTEELSELLDCLCQYGENVEKQQLLL TLLLQRIRSIQNVPESSGAVETVPAFQEITSMKERCNKLLQK  
 VQKNKELVQTEIQERHSFTKEIIALKNFFQQTTSFQNM AFQDHPEKSEQFEELQSILKKGKLT FENIME  
 KLRIKYSEMYTI VPAEIESQVEE CRKALEDIDEKISNEVLKSSPSYAMRRKIEE INGNLHNVEKMLQKKS  
 KNIEKAQEIQKKMWD ELDLWHSKLNELDSEVQDIVEQDPGQAQEWMDNLMIPFQQYQQVSQRAECRTSQL  
 NKATVKMEEYSDDLKSTEAWIENTSHLLANPADYDSLRTL SHHASTVQMALEDSEQKHNLH SIMDLED  
 LSIIFETDELTSIQELSNQVTALQQKIMESLPQIQRMADDVVAIESEVKSM EKRVSKIKTILLSKEIFD  
 FSPPEHLKHGEVILENIRPMKKTIAEIVSYQVELRRLPQTGMKPLPVFQRTNQLLQDIK LLENVTQEONEL  
 LKVVIKQTNEWDEE IENLKQILNNYSAQF SLEHMSPDQADKLPQLQGEIERMEKQILSLNQRKEDLLVDL  
 KATVNLHQHLKQEQEGVERDR LPAVTSEEGVAERDASERKLNRRGMSYLA AVEEEVEE SSVKSDNGD  
 EKAEPSPQSWSSLWKHDKMEEDRASSSGTIVQEAYGKISTSDNSMAQILTPDSL NTEQGPECSLRPNQ  
 TEEGTPPIEADTL DSSDAQGLEPRVEKTRPEPTEVLHACKTQVAEELWLQANVAVEPETLNADMQQ  
 VLEQQLVGCQAMLEIEHKVAF LLETCKDQGLGDNGATQHEAEALSLK LKTVKCNLEKVMMLQEKHSED  
 QHPTILKKSSEPEHQEALQP VNLSELESIVTERPQFSRQKDFQQQVLELKPMEQKDFIKFIEFN AKKMW  
 PQYCQHNDTTQESSASNQASSPENDVPDSILSPQGQNGDKWQYLHHELSSKIKLPLPQLVEPQVSTNMG  
 ILPSVTMYNFRYP TTEELKTYTTQLEDLRQEASNLQTQENMTEEAYINL DKKL FELFLTSQCLS SVEEM  
 LEMPRLYREDGSGQQVHYETLAL ELKKL YLALSDKKGDLLKAMTWP GENTNLLLECFDNLQVCLEHTQAA  
 AVCRSKSLKAGLDY NRSYQNEIKRLYHQLIKSKTSLQQLSNEISGQSVAEQ LKADAYTVEL ENAESRVA  
 KLRDEGERLHLPYALLQE VYKLEDVLD SMWGMLRARYTELSSPFVTE SQDALLQGMVELVKIGKEKLAH  
 GHLKQTKSKVALQAQIENHKVVFQKLVADMLLIQA YSAKILPSLLQNRETFWAEQVTEVKILEEKS RQCG  
 MKLQSL LQKWE EFDENYASLEKDEILISTLPSVSLVEETEERLVERISFYQQIKRNI GGKHARLYQTLN  
 EGKQLVASVSCPELEGGQIAKLEEQWLSLNKKIDHELHRLQALLKHL LSYNRDSDQLTKWLESSHTLN YW  
 KEQSLNVSQDLDIRSNINNF EF SKEVDEKSSLKTAVISIGNQLLHLKETDTATLRASLAQFEQKWTML  
 ITQLPDIQEKLHQLQMEKLP SRKAITEMISWMNNEHQTSD EDSVHSPSSASQVKHLLQKHKEFRMEMDY  
 KQWIVDFVNQSLQLSTCDVESKRYERTEFAEHLGEMNRQWHRVHGMLNRKIQHLEQLLESIT ESENKIQ  
 ILNNWLEAQEERLKT LQKPE SVISVQKLLDCQDIENQLAIKSKALDELKQSYL TLESGAVPLEDTASR  
 IDELFQKRSSVL TQVNQLKTSMQSVLQEWKIYDQLYDEVNMMTIRFWYCM EHSKPVVLSLETLCRCQVENL  
 QSLQDEAESSEGSWEKLEVI GKLGKLCPSVAEIEEKCNTHKRWTQVNQAIADQLQKAQSL LQLWKAY  
 SNAHGEAAARLKQQA KQQLANISMSGNNLAEILPPALQDIKELQHDVQKTKEAFLQNSSVLDRLPQPA  
 ESSTHMLLPGLHSLQRAAYLEKMLLVKANEF E FVL SQFKDFGVRL E SLKGLIMHEEENLDR LHQEKEN  
 PDSFLNHVLA LTAQSPDIEHLNEVSLKLP LSDVAVKTLQNMNRQWIRATATALERCSELQGI GLNEKFLY  
 CCEKWIQLLEKIEEALKVDVANSLELLEEQKTYKM LAEVSI NQTIADSYVTQSLQLLDTTEIENRPEF  
 ITEFSKL TDRWQNAVQGVQRKGDVDGLVRQWQDFTTSVENLFRFLTDTSHLLSAVKGQERFSLYQTRSL  
 IHELKNKEIHFQRRRTT CALTLEAGEKLLL TDLKTKESVGRRISQLQDSWKMPEQLAEMIKQFQSTVE  
 TWDQCEKKIKELKSR LQVLAQSEDPLPELHEDLHNEKELIKELEQSLASWTQNLKELQTMKADL TRHVL



VEDVMVLKEQIEHLHRQWEDLCLRVAIRKQIEIEDRLNTWVVFNEKNKELCAWLQVMENKVLQTADISIEE  
 MIEKLQKDCMEEINLFSENKLQKQMGDQLIKASNKSRAAEIDDKLNKINDRWQHLFDVIGSRVKLKET  
 FAFIQQLDKNMSNLRTWLARIESEL SKPVVYDVCDDQEIQKRLAEQQDLQRDIEQHSAGVESVFNICDVL  
 LHSDACANETECDSIQQTTRSLDRRWRNICAMSMERRMKIEETWRLWQKFLDDYSRFEDWLKSAERTAA  
 CPNSSEVLYSAKEELKRFEAFQRQIHERLTQLELINKQYRRLARENRTDASRLKQMVHEGNQRWDLQ  
 RRVTAVLRRLRHFTNQREEFEGTRESILVWLTMDLQLTNVEHFSESDADDMRQLNGFQQEITLNTNKI  
 DQLIVFGEQLIQSEPLDAVLEDELEELHRYCQEVFGRVSRFHRRLTCTPGLEDEKEASENETDMEDP  
 REIQTDSWRKRGESEEPSQSLCHLVAPGHERSGCETPVSVDSIPLEWDHTGDVGGSSSHEEDEEGPYY  
 SALSGKISDGHSHVDPSPSCPEHHYKQMEGDRNVPPVPPASSTPYKPPYGKLLLPPGTDGGKEGPRVL  
 NGNPQQEDGGLAGITEQQSGAFDRWEMIQAQELHNKLIKQNLQQLNSDISAITTWLKKTEAELEMLKMA  
 KPPSDIQEIELRVKRLQEILKAFDITYKALVSVNVSSKEFLQTESPESTELQSRLRQLSLLWEAAQGAVD  
 SWRGLRQSLMQCQDFHQLSQNLLLWLASAKNRRQKAHVDPKADPRALLECRRELMQLEKELVERQPQV  
 DMLQEISNLLIKGHGEDCIEAEKVHVEKLLKQLREQVSDLMALQGTQNPASPLPSFDEVSDGQPP  
 ATSVAPRAKQFRAVRTTEGEEETSRVPGSTRPQRSFLSRVVRAALPLQLLLLLLLLLLACLPSSEEDY  
 SCTQANNFARSFYPLRLYTNPPPT

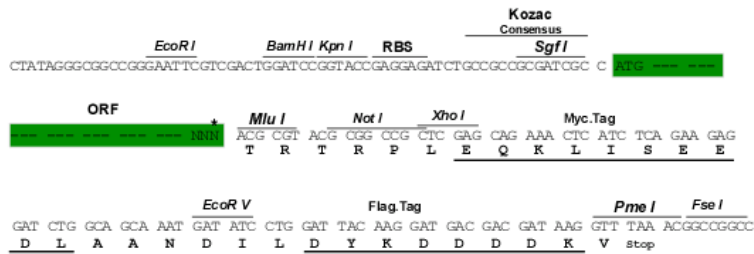
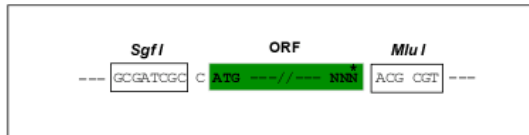
TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Sgfl-MluI

Restriction Sites:

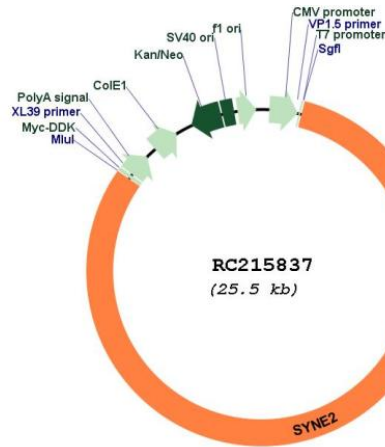
Cloning Scheme:

Cloning sites used for ORF Shuttling:



\* The last codon before the Stop codon of the ORF

Plasmid Map:



ACCN: NM\_015180

ORF Size: 20655 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](mailto: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\\_015180.5](#)

RefSeq Size:	21816 bp
RefSeq ORF:	20658 bp
Locus ID:	23224
UniProt ID:	<a href="#">Q8WXH0</a>
Cytogenetics:	14q23.2
Domains:	CH, spectrin, KID
Protein Families:	Druggable Genome, Transcription Factors
MW:	796.3 kDa
Gene Summary:	The protein encoded by this gene is a nuclear outer membrane protein that binds cytoplasmic F-actin. This binding tethers the nucleus to the cytoskeleton and aids in the maintenance of the structural integrity of the nucleus. Several transcript variants encoding different isoforms have been found for this gene. [provided by RefSeq, Mar 2009]