

Product datasheet for **MC222704**

Ank2 (NM_001034168) Mouse Untagged Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Ank2 (NM_001034168) Mouse Untagged Clone
Tag:	Tag Free
Symbol:	Ank2
Synonyms:	100043364; AI835472; Ank-2; AW491075; Gm4392
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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Fully Sequenced ORF:

>MC222704 representing NM_001034168

Red=Cloning site Blue=ORF Orange=Stop codon

 TTTTGAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGGATCGCC**

ATGGTAGACAGGCAGTCACAGGGCACCCTCTGATACCCTCTGCTAGGACCCCAACTGAAGAGGGGA
 CTCGACAAGTGAACAAAATCCATTCTCTTTAGGAAGGAAAAGTGTGGAGATGACCCGAAGTGGTGC
 TATCGATATGACCAAAAGGCCCTATGCAGATGAAAGTTTGCACTTTTTCAAATCGGCCAAGAGTCCAAT
 GAAGAGGCTATCTCCGAAGACTTGAAGGAAGGGGCCACTGGGGCTGAGCCTCCACAGACGGAGACTACTA
 GTGAGTCGCTGGAACCTTTCAGAACCACAAAGCAATGGATGACGAAGGAGAATTACTTCTGATGATGT
 AAGTGAGGAGATAGAGGATTTACCTGCCTCGGATGCTAACATTGACTCCCAAGTGATAATTTAGCTTCC
 ACAGAAACACCCACAAAGAGGCTGTATCCACAGCGGTCGAGGAGCCCCACCACACAGCGGAGTGATT
 CTCTGAGCACTGTGAAGCAGACACCACGCCCTGCCGTCCCTGGACCTGTTGGTCAGTTGGACTTTTCCCC
 CGTCACTAGGCTGTTTTATTCGGACAGGATGATGAGTCCCAGAGTCTTCTCCAGAGGAACAGAAGTCT
 GTGATTGAGATCCCTACTGCACCCGTGGACAACGTGCCTTCTGCCGAAAGCAAACCCCAAATTCCTATCA
 GGACTCTCCCCACTTTAGTCCCAGCCCCCTCATCTGCAGAGGATGAGAGTGCATTTTCTGATGATTTCCC
 ATCTAGCCTGGATGAGGATAGTAAGGAAGGTGGAGCAAAACCAAAGTCCAAAATTCCTGCAAAAGCACC
 ACCCAAAGAACTGAGTGGCAGCCCTCCCCTACCGACATACCTCTCCAGAAGACAGCTGTCCCCAGGGAC
 AGGAAACACTAAGCAGAGCACCAGATGGTAGAAGCAAGTCAGAGTCAGACGCTAGTTCCTTAGATGCTAA
 GACCAATGCCAGTGAAGCCAGAAGTTACATTGAGACAGAGACGGAGAGCAGGGAGAGGGCCGAGGGG
 TTTGAGTCAGAATCAGAAGACGGGGCCACAAAACCAAAGCTCTTTCATCCGACTGCCGGTGAAGAGCA
 GGAGCACTTCATCTTCCGGCAGGCCAGGCACGAGCCCCACCAGAGAGAGCAGGGAGCACTCTTTGACCT
 TTACCGAAACTCCATAGAATTCTTTGAGGAGATTAGTGATGAAGCTTCAAATAGTGGACAGGCTTACA
 CAGTCAGAGAGGGAGCAGGAGCCACCTTCAGACGACGAAAGTAGCAGTGCCTGGAAGTGTGAGTATTG
 AGAGTCTGCCACCTGTTGACATTGAGCACTCAGCTCCCGAGGACATCTTTGACACAAGGCCCATTTGGGA
 TGAGTCTATTGAGACTATGATTGAACGCATCCCTGATGAAAATGGCCATGACCGAGCTGAAGATCCCCAA
 GATGAGCAGGAGCGGATGGAAGAAAGGCTGGCTTACATCGCTGATCACCTTGGCTCAGCTGGACAGAAT
 TAGCAAGAGAAGTGGATTTCACTGAGGAGCAAATTCACCAAATTCGAATCGAGAACCCCAACTCCCTTCA
 AGATCAGAGCCACGCACTGCTCAAGTACTGGCTGGAGAGGGATGGGAAGCATGCCACAGATACCATCCTC
 ATCGAATGCCTCACCAAGATCAACAGGATGGACATTGTACATCTCTGGAGACCAACACAGAGCCCTCC
 AGGAGCGCATGGGCCGACGCTATGCAGAAATAGAGCAGACCATTACGCTGGACCACAGTGAAGGATTTTC
 AGTCTTCCAGACGAGCTCTGTGCTGCCAAGGAGAAGAAGGAGCAGGAAGCTTCAAAGAAAGCGAGTCT
 AGCGACCACCCGCCATGGTCTCCGAAGAAGACATATCTGTGGTTATTCCACATTTTCAGGATGGCTCC
 CAAAACCTGAAGGGGACAGCCCAGCAGCAGCACTGTCTCTCAAATGCACCAGGAGCCAGTTCAACAAGA
 TTTCTCAGGGAAAACGCAAGACCAGCAGGAATATTATGTAACAACACCAGGGGCAGAAGTGGAGACCCCT
 CAGAAGGCCACAGCCGTTCTGACTCTCTCTGTAAGACTCCTGAGGACATCAGTACCCCTCCTGAGGGAA
 CAAAGCCTTGCTCCAGACCCCGGTGACTAGCGAACGTGGTTCTCCGATTGTGCAAGAACCTGAGGAGGC
 TTCCGAGCCCAAAGAGGAGAGTTCTCAAGGAAAACCTAGCCTGGTCAATGTTGAGTCAACAGACGACCAG
 TCTCAGGTCTTTGAAAGACTGGATGGTGTGCGCTTTTCAAAGGGAGAGCATATGCCTGACATACCCC
 CAGAGACGGTCACAGAGGAAGAATATGTTGATGAGAATGGACACACCGTGGTGAAGAAGTTACCCGGAA
 AATCATTAGGCGGTACGTTTCTCTGATGGCACAGAGAAGGAGGAGTTACCATGCAGGGAATGCCTCAG
 GAGCCAGTCAACATTGAGGATGGGGACAATTTCCAAAGTGATAAAGCGCGTGGTATTGAAGAGTGACA
 CCCAGCAGTCAGAGGTGACTTTGTCTGAACCCAGCGTTTTGTCCAGTACCTCACAGTTTCAGGCCGAGCC
 AGTAGAAGGCCGTAGAGTCAGCAAAGTTGTTAAAACAACCATGGTACACGGAGAACGGATGGAGAAGAGT
 CTTGGGGACTCTAGCTTAGCCACTGACCTTCTTCAGCCAAAGATGACTTTGAAGAGGACAACAATGAGT
 AA

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

Restriction Sites:

SgfI-MluI

ACCN:	NM_001034168
Insert Size:	2802 bp
OTI Disclaimer:	Our molecular clone sequence data has been matched to the reference identifier above as a point of reference. Note that the complete sequence of our molecular clones may differ from the sequence published for this corresponding reference, e.g., by representing an alternative RNA splicing form or single nucleotide polymorphism (SNP).
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:	<ol style="list-style-type: none"> 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:	<u>NM_001034168.1</u> , <u>NP_001029340.1</u>
RefSeq Size:	5487 bp
RefSeq ORF:	2802 bp
Locus ID:	109676
UniProt ID:	<u>Q8C8R3</u>
Cytogenetics:	3 56.07 cM

Gene Summary:

Plays an essential role in the localization and membrane stabilization of ion transporters and ion channels in several cell types, including cardiomyocytes, as well as in striated muscle cells. In skeletal muscle, required for proper localization of DMD and DCTN4 and for the formation and/or stability of a special subset of microtubules associated with costameres and neuromuscular junctions (PubMed:19109891). In cardiomyocytes, required for coordinate assembly of Na/Ca exchanger, SLC8A1/NCX1, Na/K ATPases ATP1A1 and ATP1A2 and inositol 1,4,5-trisphosphate (InsP3) receptors at sarcoplasmic reticulum/sarcolemma sites (PubMed:12571597). Required for expression and targeting of SPTBN1 in neonatal cardiomyocytes and for the regulation of neonatal cardiomyocyte contraction rate (PubMed:15262991). In the inner segment of rod photoreceptors, required for the coordinated expression of the Na/K ATPase, Na/Ca exchanger and beta-2-spectrin (SPTBN1) (PubMed:19007774). Plays a role in endocytosis and intracellular protein transport. Associates with phosphatidylinositol 3-phosphate (PI3P)-positive organelles and binds dynactin to promote long-range motility of cells. Recruits RABGAP1L to (PI3P)-positive early endosomes, where RABGAP1L inactivates RAB22A, and promotes polarized trafficking to the leading edge of the migrating cells. Part of the ANK2/RABGAP1L complex which is required for the polarized recycling of fibronectin receptor ITGA5 ITGB1 to the plasma membrane that enables continuous directional cell migration (PubMed:27718357).[UniProtKB/Swiss-Prot Function]