

Product datasheet for **MC223346**

Ank2 (NM_178655) Mouse Untagged Clone

Product data:

Product Type: Expression Plasmids
Product Name: Ank2 (NM_178655) Mouse Untagged Clone
Tag: Tag Free
Symbol: Ank2
Synonyms: 100043364; A1835472; Ank-2; AW491075; Gm4392
Vector: pCMV6-Entry (PS100001)
E. coli Selection: Kanamycin (25 ug/mL)
Cell Selection: Neomycin
Fully Sequenced ORF: >MC223346 representing NM_178655
Red=Cloning site Blue=ORF Orange=Stop codon

TTTTGTAATACGACTCACTATAGGGCGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCC**CGGATCGCC**

ATGACGGAGGTCCTTGATGTTTCTGATGAAGAGGGTGATGACACTGTGACAGGTGATGGGGGAGAATACC
TCAGGCCAGAAGATCTCAAGGAGCTCGGAGATGACTCACTGCCAGCAGTCAGTTCCTGGATGGCATGAA
CTACCTTCGGTACAGTCTGGAGGGAGGAAGATCCGACAGCCTCCGGTCCCTCAGTTCGACAGGTCTCAC
ACTCTGAGCCATGCATCGTACCTGAGGGACAGTGCCATGATTGACGACACGGTTGTGATCCCCAGCCACC
AGGTGTCTGCGCTAGCCAAGGAGGCAGAAAGGAATTCCTATCGTCTGAGCTGGGGCACTGAGAACTTAGA
CAACGTGGCTCTTTCTCCAGTCCATTCATTCAGGTTTCTAGTCAGTTTTATGGTGGATGCCCGTGGT
GGTGCCATGCGAGGATGCAGACACAATGGACTCAGAATCATTATCCACCTCGGAAATGCACAGCCCCAA
CTCGCGTCACCTGCCGCTTGTGAAACGCCATCGACTGGCAACAATGCCGCCATGGTGGAAAGGAGAAGG
CCTGGCCAGCCGCTGATTGAAGTCGGACCTTCGGGAGCTCAGTTTCTGGGCCCGTGCATGAGGATC
CCTCACTTCGCCGCTCTCGAGGAAAGGAGAGGGAGCTGGTGGTCTGCGCAGTAAAAATGGGACAGCT
GGAAAGAGCATTCTGCGACTACACTGAGGATGAATTGAACGAAATCCTTAATGGCATGGATGAAGTGCT
GGACAGTCCAGAAGACCTGGAAAAGAAACGAATCTGCCGCATCATCACTCGTGACTTCCACAGTACTTT
GCGGTGGTGTCTCGCATCAAACAGGACAGCAACCTGATTGGCCCCGAGGGTGGAGTACTGAGCAGCACAG
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TTGGAACCCAGGAGAAGAAAATCCACAAGCCAATTAATGACTATTCTGTCCCCAAAGCTTCAAGTG
ATGTCATGCTGAATGGTTTTGGGGGAGACGCACCAACCTTAAGATTACTGTGACGATAACAGGTGGAAC
TACGCTGCCAGTGGGAAGACATCACAGGAACAACGCCACTAACATTTGTCAATGAGTGTGTTTCTTT
ACAACCAAGTGTCTGCCAGTTCTGGCTGATGACTGTGACAGATTGAGGAGTCTGTTGCCTTTGCAT
CACAAGTGTATAGAGAAATATCTGTGTCCATATATGGCCAAATTTGTAGTGTGGCAAGTCACATGA
CCCCATTGAAGCCAGTTGCGGTGTTTCTGTATGACAGATGACAAAGTAGATAAGACCCTTGAACAACA
GAAAATCTCTGAGGTGGCCAGGAGCAGGGATGTGGAGTATTGGAAGGAAAACCTATTTATGTTGATT



GTTTTGGCAACCTGGTTCCACTAACCAAGAGTGGCCAACATCATATATTCAGCTTTTTTGCCTTCAAAGA
AAATAGACTTCCTCTCTTTGTCAAGGTTTCGTGACACAACCCAGGAACCTTGCGGGCGACTCTCATTATG
AAGGAACCCAAATCCACAAGAGGACTGGTGCATCAAGCTATTTGCAACTTAAACATCACCTGCCAATTT
ATGCCAAGGAATCGGAGTCAGATCAAGAGCCGGAGGAAGAGATCGGTATGACATCCGAAAAAATCCCCA
AGATGAGCAGGAGCGGATGGAAGAAAGGCTGGCTTACATCGCTGATCACCTTGGCTTCAGCTGGACAGAA
TTAGCAAGAGAAGTGGATTTCACTGAGGAGCAAATCACCAAATTCGAATCGAGAACCCCAACTCCCTTC
AAGATCAGAGCCACGCACTGCTCAAGTACTGGCTGGAGAGGGATGGGAAGCATGCCACAGATACCATCCT
CATCGAATGCCTCACCAAGATCAACAGGATGGACATTGTACATCTCCTGGAGACCAACACAGAGCCCTC
CAGGAGCGCATGGGCCGAGCTATGCAGAAATAGAGCAGACCATTACGCTGGACCACAGTGAAGGATTTT
CAGTCCTTCCAGACGAGCTCTGTGCTGCCAAGGAGAAGAAGGAGCAGGAAGCTTCCAAAGAAAGCGAGTC
TAGCGACCACCCGCCATGGTCTCCGAAGAAGACATATCTGTCGGTTATTCCACATTTTCAGGATTGCCTC
CCCAAACTGAAGGGGACAGCCAGCAGCAGCACTGTCTCCTCAAATGCACCAGGAGCCAGTTCAACAAG
ATTTCTCAGGGAAAACGCAAGACCAGCAGGAATATTATGTAACAACACCAGGGGCAGAAGTGAAGACCC
TCAGAAGGCCACAGCCGTTCTGACTCTCTCTGTAAGACTCCTGAGGACATCAGTACCCCTCCTGAGGGA
ACAAAGCCTTGTCTCCAGACCCCGTGACTAGCGAACGTGGTTCTCCGATTGTGCAAGAACCTGAGGAGG
CTTCCGAGCCAAAGAGGAGAGTTCTCCAAGGAAAAGTACGCTGGTCAATTGTTGAGTCAACAGACGACCA
GTCTCAGGTCTTTGAAAGACTGGATGGTATGCCGCTTTTCAAAGGGAGACGATATGCCTGACATACCC
CCAGAGACGGTCACAGAGGAAGAATATGTTGATGAGAATGGACACACCCGTGGTGAAGAAGTTACCCGGA
AAATCATTAGGCGGTACGTTTCTCTGATGGCAGAGAGAAGGAGGAGTTACCATGCAGGGAATGCCTCA
GGAGCCAGTCAACATTGAGGATGGGGACAATTATTCAAAGTGATAAAGCGCGTGGTATTGAAGAGTGAC
ACCCAGCAGTCAGAGGTGACTTTGTCTGAACCCAGCGTTTTGTCCAGTACCTCACAGTTTCAGGCCGAGC
CAGTAGAAGGCCGTAGAGTCAGCAAAGTTGTTAAAACAACCATGGTACACGGAGAACGGATGGAGAAGAG
TCTTGGGACTCTAGCTTAGCCACTGACCTTCTTCAGCCAAGATGACTTTGAAGAGGACAACAATGAG
TAA

ACGCGTACGCGGCCGCTCGAGCAGAAAACATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
ACAAGGATGACGACGATAAGGTTTAA

Restriction Sites:	Sgfl-MluI
ACCN:	NM_178655
Insert Size:	3153 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_178655.3</u> , <u>NP_848770.2</u>
RefSeq Size:	5790 bp

RefSeq ORF: 3153 bp

Locus ID: 109676

UniProt ID: [Q8C8R3](#)

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]