

## Product datasheet for **MR226071**

### Ank2 (NM\_001034168) Mouse Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	Ank2 (NM_001034168) Mouse Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Ank2
Synonyms:	100043364; A1835472; Ank-2; AW491075; Gm4392
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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**ORF Nucleotide Sequence:**

>MR226071 representing NM\_001034168  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGCATCGCC**

ATGGTAGACAGGCAGTCACAGGGCACCCTCTGATACCCTCTGCTAGGACCCCACTGAAGAGGGGA  
 CTCGACAAGTGAACAAAATCCATTCTCTTTAGGAAGGAAAAGTGTGGAGATGACCCGAAGTGGTGC  
 TATCGATATGACCAAAAGGCCCTATGCAGATGAAAGTTTGCACCTTTTCCAAATCGGCCAAGAGTCCAAT  
 GAAGAGGCTATCTCCGAAGACTTGAAGGAAGGGGCCACTGGGGCTGAGCCTCCACAGACGGAGACTACTA  
 GTGAGTCGCTGGAACCTTTCAGAACCACAAAGAAGCAATGGATGACGAAGGAGAATTACTTCTGATGATGT  
 AAGTGAGGAGATAGAGGATTTACCTGCCTCGGATGCTAACATTGACTCCCAAGTGATAATTTAGCTTCC  
 ACAGAAACACCCACCAAGAGGCTGTATCCACAGCGGTCGAGGAGCCCCCACCACAGCGGAGTGATT  
 CTCTGAGCACTGTGAAGCAGACACCACGCCCTGCCGTCCCTGGACCTGTTGGTCAGTTGGACTTTTCCCC  
 CGTCACTAGGCTGTTTTATTCGGACAGGATGATGAGTCCCAGAGTCTTCTCCAGAGGAACAGAAGTCT  
 GTGATTGAGATCCCTACTGCACCCGTGGACAACGTGCCTTCTGCCGAAAGCAAACCCCAAATTCCTATCA  
 GGACTCTCCCACTTTAGTCCCAGCCCCCTCATCTGCAGAGGATGAGAGTGCATTTTCTGATGATTTCCC  
 ATCTAGCCTGGATGAGGATAGTAAGGAAGGTGGAGCAAAACCAAAGTCCAAAATTCCTGCAAAAGCACC  
 ACCCAAAGAACTGAGTGGCAGCCCTCCCCTACCGACATACCTCTCCAGAAGACAGCTGTCCCCAGGGAC  
 AGGAAACACTAAGCAGAGCACCAGATGGTAGAAGCAAGTCAGAGTCAGACGCTAGTTCCTTAGATGCTAA  
 GACCAATGCCAGTGAAGCCAGAAGTTACATTGAGACAGAGACGGAGAGCAGGGAGAGGGCCGAGGGG  
 TTTGAGTCAGAATCAGAAGACGGGGCCACAAAACCAAAGCTCTTTCATCCCGACTGCCGGTGAAGAGCA  
 GGACACTTCATCTTCCGGCAGGCCAGGCACGAGCCCCACCAGAGAGAGCAGGGAGCACTCTTTGACCT  
 TTACCGAAACTCCATAGAAATCTTTGAGGAGATTAGTGATGAAGCTTCCAAATTAGTGGACAGGCTTACA  
 CAGTCAGAGAGGGAGCAGGAGCCACCTTCAGACGACGAAAGTAGCAGTGCCTGGAAGTGTGAGTATTG  
 AGAGTCTGCCACCTGTTGACATTGAGCACTCAGCTCCCGAGGACATCTTTGACACAAGGCCCATTTGGGA  
 TGAGTCTATTGAGACTATGATTGAACGCATCCCTGATGAAAATGGCCATGACCGAGCTGAAGATCCCAA  
 GATGAGCAGGAGCGGATGGAAGAAAGGCTGGCTTACATCGCTGATCACCTTGGCTCAGCTGGACAGAAT  
 TAGCAAGAGAAGTGGATTTCACTGAGGAGCAAATTCACCAAATTCGAATCGAGAACCCCACTCCCTTCA  
 AGATCAGAGCCACGCACTGCTCAAGTACTGGCTGGAGAGGGATGGGAAGCATGCCACAGATACCATCCTC  
 ATCGAATGCCTCACCAAGATCAACAGGATGGACATTGTACATCTCTGGAGACCAACACAGAGCCCTCC  
 AGGAGCGCATGGGCCGACGCTATGCAGAAATAGAGCAGACCATTACGCTGGACCACAGTGAAGGATTTTC  
 AGTCTTCCAGACGAGCTCTGTGCTGCCAAGGAGAAGAAGGAGCAGGAAGCTTCCAAAGAAAGCGAGTCT  
 AGCGACCACCCGCCATGGTCTCCGAAGAAGACATATCTGTGGTTATTCCACATTTTCAGGATGGCTCC  
 CAAAACCTGAAGGGGACAGCCCAGCAGCAGCACTGTCTCTCAAATGCACCAGGAGCCAGTTCAACAAGA  
 TTTCTCAGGGAAAACGCAAGACCAGCAGGAATATTATGTAACAACACCAGGGGCAGAAGTGGAGACCCCT  
 CAGAAGGCCACAGCCGTTCTGACTCTCTCTGTAAGACTCCTGAGGACATCAGTACCCCTCCTGAGGGAA  
 CAAAGCCTTGCTCCAGACCCCGGTGACTAGCGAACGTGGTTCTCCGATTGTGCAAGAACCTGAGGAGGC  
 TTCCGAGCCCAAAGAGGAGAGTTCTCAAGGAAAACAGCTGGTCAATGTTGAGTCAACAGACGACCCAG  
 TCTCAGGTCTTTGAAAGACTGGATGGTGTGCGCTTTTCAAAGGGAGACGATATGCCTGACATACCCC  
 CAGAGACGGTCACAGAGGAAGAATATGTTGATGAGAATGGACACACCGTGGTGAAGAAGTTACCCGGAA  
 AATCATTAGGCGGTACGTTTCTCTGATGGCACAGAGAAGGAGGAGTTACCATGCAGGGAATGCCTCAG  
 GAGCCAGTCAACATTGAGGATGGGGACAATTTCCAAAGTGATAAAGCGCGTGGTATTGAAGAGTGACA  
 CCCAGCAGTCAGAGGTGACTTTGTCTGAACCCAGCGTTTTGTCCAGTACCTCACAGTTTCAGGCCGAGCC  
 AGTAGAAGGCCGTAGAGTCAGCAAAGTTGTTAAAACAACCATGGTACACGGAGAACGGATGGAGAAGAGT  
 CTTGGGGACTCTAGCTTAGCCACTGACCTTCTCAGCCAAAGATGACTTTGAAGAGGACAACAATGAG

**ACGCGT**ACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT  
 ACAAGGATGACGACGAT AAGGTTTAA

**Protein Sequence:** >MR226071 representing NM\_001034168  
 Red=Cloning site Green=Tags(s)

MVDRQSQGTTPDTPPARTPEEGTPTSEQNPFQEGKLFEMTRSGAIDMTKRPYADESLHFFQIGQESN  
 EEAISEDLKEGATGAEPPTQTTTSESLSEPKAMDDEGELLPDDVSEEIEDLPASDANIDSQVIISAS  
 TETPTKEAVSTAVEEPTTQRSDSLSTVKQTPRPAVPGPVGQLDFSPVTRSVYSGQDDESPESPPEEQKS  
 VIEIPTAPVDNVPSAESKPQIPIRTLPLVAPPSSAEDESASFDDFPSSLDDEDSKEGGAKPKSKIPVKAP  
 TQRTEWQPSPTDIPLQKTAVPQQQETLSRAPDGRSKSESDASSLDAKTKCPVKARSYIETETESRERAEG  
 FESESEDGATKPKLFAURLPVKSRSTSSSRPGTSPTREREHFFDLYRNSIEFFEEISDEASKLVDRLT  
 QSEREQEPPSDESSALEVSVIESLPPVDIEHSAPEDIFDTRPIWDES IETMIERIPDENGHDRAEDPQ  
 DEQERMEERLAYIADHLGFSWTELARELDFTEEQIHQIRIENPNLQDQSHALLKYWLERDGKHATDIL  
 IECLTKINRMDIVHLLNTEPLQERMGRSYAIEQITILDHSEGFVLPDELCAAKEKKEQEAKESES  
 SDHPMVSEEDISVGYSTFDCLPKTEGDSPAALSPQMHQEPVQQDFSGKTQDQEQEYVTPGAEVEDP  
 QKATAVPDSLCKTPEDISTPPEGTKPCLQTPVT SERGSPIVQEPEEASEPKKESSPRKTSLVIVESTDDQ  
 SQVFERLDGDAAFQKGDMPDIPPETVTEEEYVDENGHTVVKVTRKIIIRRYVSSDGTKEEVEVMQMPQ  
 EPVNIEDGDNYSKVIKRVVLKSDTQQSEVTLSEPSVLSSTSQFQAEPVEGRRVSKVVKTTMVHGERMEKS  
 LGDSSLATDLPSAKDDFEEDNNE

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

**Restriction Sites:**

SgfI-MluI

**Cloning Scheme:**



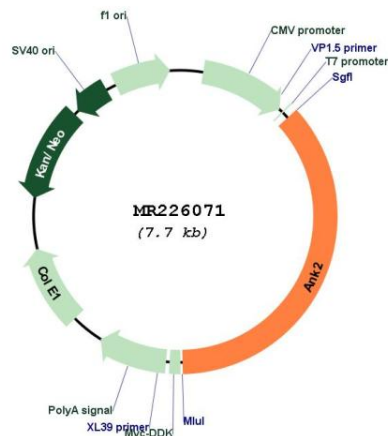
**ACCN:** NM\_001034168

**ORF Size:** 2799 bp

<b>OTI Disclaimer:</b>	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. <a href="#">More info</a>
<b>OTI Annotation:</b>	This clone was engineered to express the complete ORF with an expression tag. Expression varies depending on the nature of the gene.
<b>Components:</b>	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).
<b>Reconstitution Method:</b>	<ol style="list-style-type: none"><li>1. Centrifuge at 5,000xg for 5min.</li><li>2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.</li><li>3. Close the tube and incubate for 10 minutes at room temperature.</li><li>4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.</li><li>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.</li></ol>
<b>RefSeq:</b>	<a href="#">NM_001034168.1</a> , <a href="#">NP_001029340.1</a>
<b>RefSeq Size:</b>	5487 bp
<b>RefSeq ORF:</b>	2802 bp
<b>Locus ID:</b>	109676
<b>UniProt ID:</b>	<a href="#">Q8C8R3</a>
<b>Cytogenetics:</b>	3 56.07 cM
<b>MW:</b>	103.7 kDa

**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]

**Product images:**


Circular map for MR226071