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Product datasheet for MR211532

Ank2 (NM_178655) Mouse Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Ank2 (NM_178655) Mouse Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Ank2
Synonyms:	100043364; AI835472; Ank-2; AW491075; Gm4392
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)

ORF Nucleotide Sequence:

>MR211532 ORF sequence
Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCCGCGATCGCC

ATGACGGAGGTCCTTGATGTTTCTGATGAAGAGGGTGATGACACTGTGACAGGTGATGGGGGAGAATACC
TCAGGCCAGAAGATCTCAAGGAGCTCGGAGATGACTCACTGCCCAGCAGTCAGTTCCTGGATGGCATGAA
CTACCTTCGGTACAGTCTGGAGGGAGGAAGATCCGACAGCCTCCGGTCCTTCAGTTCCGACAGGTCTCAC
ACTCTGAGCCATGCATCGTACCTGAGGGACAGTGCCATGATTGACGACACGGTTGTGATCCCCAGCCACC
AGGTGTCTGCGCTAGCCAAGGAGGCAGAAAGGAATTCTTATCGTCTGAGCTGGGGCACTGAGAACTTAGA
CAACGTGGCTCTTTCTTCCAGTCCTATTCATTCAGGTTTCCTAGTCAGTTTTATGGTGGATGCCCGTGGT
GGTGCCATGCGAGGATGCAGACACAATGGACTCAGAATCATTATCCCACCTCGGAAATGCACAGCCCCAA
CTCGCGTCACCTGCCGCCTTGTGAAACGCCATCGACTGGCAACAATGCCGCCCATGGTGGAAGGAGAAGG
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GGAAAGAGCATTTCTGCGACTACACTGAGGATGAATTGAACGAAATCCTTAATGGCATGGATGAAGTGCT
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GAAAACTTCTCTGAGGTGGCCAGGAGCAGGGATGTGGAGGTATTGGAAGGAAAACCTATTTATGTTGATT
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TCTTGGGGACTCTAGCTTAGCCACTGACCTTCCTTCAGCCAAAGATGACTTTGAAGAGGACAACAATGAG

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence:

>MR211532 protein sequence
Red=Cloning site Green=Tags(s)

MTEVLDVSDEEGDDTVTGDGGEYLRPEDLKELGDDSLPSSQFLDGMNYLRYSLEGGRSDSLRSFSSDRSH
TLSHASYLRDSAMIDDTVVIPSHQVSALAKEAERNSYRLSWGTENLDNVALSSSPIHSGFLVSFMVDARG
GAMRGCRHNGLRIIIPPRKCTAPTRVTCRLVKRHRLATMPPMVEGEGLASRLIEVGPSGAQFLGPVIVEI
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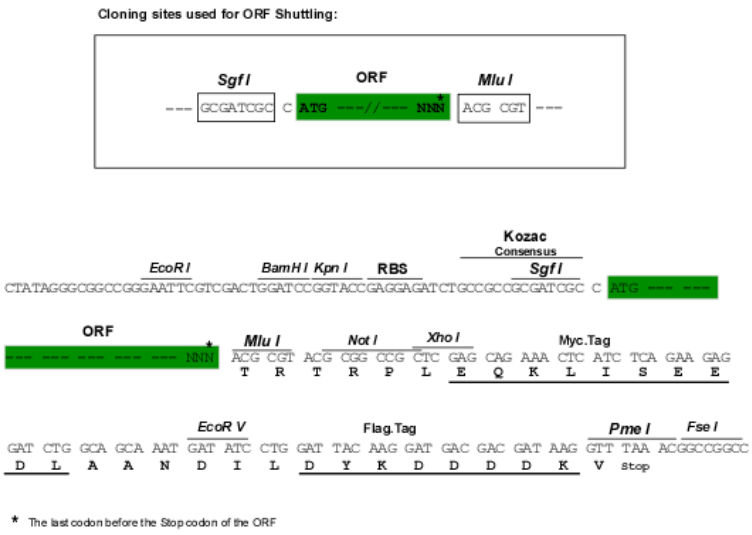
Restriction Sites:

SgfI-MluI

Cloning Scheme:



ACCN:	NM_178655
ORF Size:	3153 bp
OTI Disclaimer:	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_178655.3, NP_848770.2
RefSeq Size:	5790 bp
RefSeq ORF:	3153 bp
Locus ID:	109676

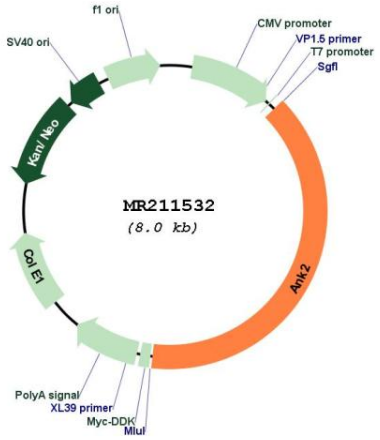
UniProt ID: Q8C8R3

Cytogenetics: 3 56.07 cM

MW: 117.4 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 MR211532