

Product datasheet for MR226030

Akap13 (NM_029332) Mouse Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Akap13 (NM_029332) Mouse Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Akap13
Synonyms:	1700026G02Rik; 5730522G15Rik; 5830460E08Rik; AKAP-13; AKAP-Lbc; BRX; Ht31; LBC
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
Cell Selection:	Neomycin
ORF Nucleotide Sequence:	>MR226030 representing NM_029332 Red=Cloning site Blue=ORF Green=Tags(s)

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GCC**CGGATCGCC**

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CAACTGAAACAACCTGCTGTTCAAGTTTTAAGTGAACCCATGGAGAAAGCCGATATTACAAACCATGTCTT
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Protein Sequence:

>MR226030 representing NM_029332
 Red=Cloning site Green=Tags(s)

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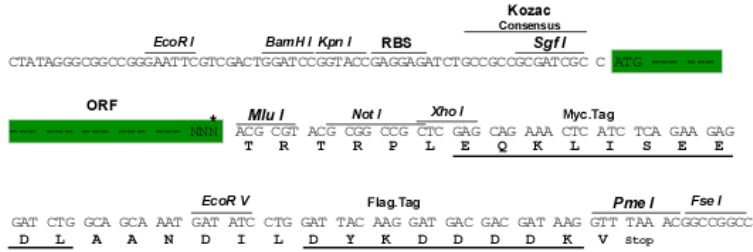
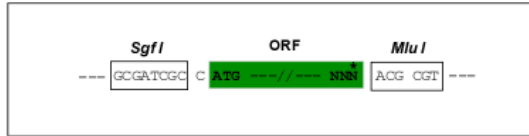
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Restriction Sites:

SgfI-MluI

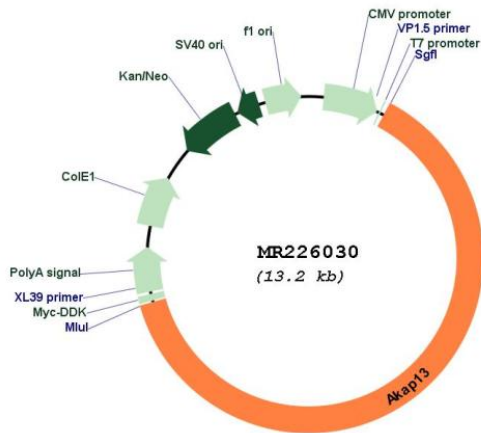
Cloning Scheme:

Cloning sites used for ORF Shuttling:



* The last codon before the Stop codon of the ORF

Plasmid Map:



ACCN: NM_029332

ORF Size: 8328 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:	<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:	NM_029332.1 , NP_083608.1
RefSeq Size:	12543 bp
RefSeq ORF:	8331 bp
Locus ID:	75547
UniProt ID:	E9Q394
Cytogenetics:	7 D1
MW:	304 kDa

Gene Summary:

Scaffold protein that plays an important role in assembling signaling complexes downstream of several types of G protein-coupled receptors. Activates RHOA in response to signaling via G protein-coupled receptors via its function as Rho guanine nucleotide exchange factor. May also activate other Rho family members (PubMed:23658642). Part of a kinase signaling complex that links ADRA1A and ADRA1B adrenergic receptor signaling to the activation of downstream p38 MAP kinases, such as MAPK11 and MAPK14. Part of a signaling complex that links ADRA1B signaling to the activation of RHOA and IKBKB/IKKB, leading to increased NF-kappa-B transcriptional activity. Part of a RHOA-dependent signaling cascade that mediates responses to lysophosphatidic acid (LPA), a signaling molecule that activates G-protein coupled receptors and potentiates transcriptional activation of the glucocorticoid receptor NR3C1 (By similarity). Part of a signaling cascade that stimulates MEF2C-dependent gene expression in response to lysophosphatidic acid (LPA) (By similarity). Part of a signaling pathway that activates MAPK11 and/or MAPK14 and leads to increased transcription activation of the estrogen receptors ESR1 and ESR2. Part of a signaling cascade that links cAMP and EGFR signaling to BRAF signaling and to PKA-mediated phosphorylation of KSR1, leading to the activation of downstream MAP kinases, such as MAPK1 or MAPK3 (By similarity). Functions as scaffold protein that anchors cAMP-dependent protein kinase (PKA) and PRKD1. This promotes activation of PRKD1, leading to increased phosphorylation of HDAC5 and ultimately cardiomyocyte hypertrophy (PubMed:24161911). Has no guanine nucleotide exchange activity on CDC42, Ras or Rac (By similarity). Required for normal embryonic heart development, and in particular for normal sarcomere formation in the developing cardiomyocytes (PubMed:20139090). Plays a role in cardiomyocyte growth and cardiac hypertrophy in response to activation of the beta-adrenergic receptor by phenylephrine or isoproterenol (PubMed:23658642, PubMed:24161911). Required for normal adaptive cardiac hypertrophy in response to pressure overload (PubMed:17537920, PubMed:24161911). Plays a role in osteogenesis (PubMed:25892096).[UniProtKB/Swiss-Prot Function]