

## Product datasheet for **MR224943**

### Arhgef7 (NM\_001113518) Mouse Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	Arhgef7 (NM_001113518) Mouse Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Arhgef7
Synonyms:	betaPix; betaPix-b; betaPix-c; Cool; cool-1; mKIAA0142; p85Cool1; p85SPR; Pak3bp; PIX
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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**ORF Nucleotide Sequence:**

>MR224943 representing NM\_001113518  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGGATCGCC**

ATGACTGATAACACCAACAGCCAACCTGGTAGTACGAGCCAAGTTAACTCCAGCAGACCAATGAAGATG  
 AACTCTCCTTCTCAAAGGGTGATGTCATCCATGTCACACGAGTGGAGGAAGGAGGCTGGTGGGAGGGCAC  
 ACACAATGGCAGGACCGGCTGGTTCCTCCAGCAACTACGTTTCGAGAGATCAAGCCAAGTGAGAAGCCCGTG  
 TCACCCAAATCAGGGACCTTGAAGAGCCCTCCCAAAGGGTTCGATACGACTGCCATCAACAAGAGCTATT  
 ACAACGTGGTGCTACAGAACATCCTGGAACAGAGCATGAGTATTCGAAGGAGCTGCAGTCTGTGCTGTC  
 CACCTACCTGCGGCCACTGCAGACCAGTACAAGTTGAGTTCAGCAAACACTTCATATTTAATGGGAAAT  
 CTAGAGGAAATATCTTCCTCCAGCAAGTGCTGTACAGTCCCTAGAAGAATGCACGAAGTCTCCTGAAG  
 CCCAACAGAGAGTTGGTGGCTGCTTCTGAGCCTGATGCCGAGATGAGGACCCTGTACCTCGCTTACTG  
 TGCCAACCACCCATCTGCTGTGAGCGTCTCACAGAGCACAGTGAAGGACCTAGGAGAGTTTCATGGAACA  
 AAAGGTGCCAGCAGCCCTGGGATCCTGGTGTGACCACCGGCCTGAGCAAGCCCTTCATGCGCCTGGACA  
 AGTACCCACACTGCTAAAGGAGCTGGAGAGACACATGGAGGATTATCATCCTGATAGACAAGATATTCA  
 GAAGTCTATGACGGCCTTCAAAAACCTTTCAGCTCAGTGTCAAGAAGTTCGCAAGAGGAAGGAGCTGGAG  
 CTGCAGATCCTGACGGAGCCATCAGGAGCTGGGAGGGGGATGACATAAAGACCTTGGCAGTGTACAT  
 ACATGTCCAAGTCAACATTCAGTGTGCGGGAAGCGAGGAGAAGAATGAGAGATACCTCCTGCTCTTCCC  
 AAACCTTCTGCTCATGTTGTCTGCAAGTCCCAGGATGAGTGGTTTCATCTATCAGGGGAAGCTGCCAACA  
 ACAGGAATGACAATCACAAAGCTTGAGGACAGTGAACCATAGGAATGCATTTGAGATATCAGGGAGCA  
 TGATCGAGCGGATTCTGGTGTCTGACACAGCCAGGACTTACACGAGTGGGTGGAACACCTGCAGCA  
 GCAGACGAAGGTCACATCTGTGAGCAACCCACCATCAAACCCCACTCGGTGCCATCACACACACTTCCT  
 TCCCATCTCTCACTCCATCCAGCAAACACGCGGACAGCAAGCCCGTGGCACTGACGCCTGCGTACCACA  
 CACTCCCCACCCCTCTCACCATGGCACCCACACACCACATCAGCTGGGGACCCTGGAGCCTCCGAA  
 GACCCCAAGCCTTGGAGCCTGAGTTGCCTGCGGCCTGCACCTCCCCTCCGGCCCTCAGTGTCTCTGTC  
 TACAAGGAGGATCTCAGTAAGAGCCCAAGACCATGAAAAGCTGCTGCCGAAGCGCAAGCCCGAGCGGA  
 AGCCTTCGGACGAGGAGTTGCTGTGCGCAAGAGCACAGCGCGCTGGAAGAAGACGCTCAGATCCTGAA  
 GGTATCGAAGCTTATTGCACAAGTCAAAGACGCGCCAGACCCTGAACTCAACATGGCAAGGCACTGAC  
 CTGATGCATAATCACGTCTTGGCTGATGACGACCAATCAAGTCTAGACTCCTTGGTTCGTCGAGTAGCC  
 TTTCTCGTTTGGAGCCCTCAGACCTCTCGGAAGACTCTGAGTATGACAGTATATGGACAGCCATAGTTA  
 CAGAATGGGTTCTGCATCCCGTTACGCAAGAATCTGCTCCACAAGTGTGCTTCCAGAAGAAGAAAAA  
 ATTATAGTCGAAGAAACCAAGAGCAATGGGCAGACAGTATAGAGGAAAAGAGCCTCGTGGATACGGTGT  
 ATGCGTTAAAGGATGAAGTCCAGGAGTTAAGACAGGATAACAAGAAGATGAAGAAGTCTTAGAGGAGGA  
 ACAGAGGGCCCGCAAGGACTTAGAGAAGCTGGTGAAGGTTCTAAAGAATATGAACGACCCTGCCTGG  
 GATGAGACCAATCTA

**ACGCGT**ACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT  
 ACAAGGATGACGACGATAAGGTTTAA

**Protein Sequence:** >MR224943 representing NM\_001113518  
 Red=Cloning site Green=Tags(s)

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MTDNTNSQLVVRAKFNFQQTNEDELSFSKGDVIHVTRVEEGGWEGTHNGRTGWFPSNYVREIKPSEKPV
SPKSGTLKSPKGFDTTAINKSYNVVLQNILETEHEYSKELQSVLSTYLRLQTSKLSANTSYLMGN
LEEISSFQQVLVQSLEECTKSPEAQQRVGGCFLSLMPQMRTLILAYCANHPSAVSVLTHESEDLGEFMET
KGASSPGILVLTGLSKPFMRLDKYPTLLKELERHMEDYHPDRQDIQKSMTAFKNLSAQCCQEVRRKKELE
LQILTEPIRSWEGDDIKTLGSVTYMSQVTIQCAGSEEKNERYL LFPNLLMLSASPRMSGFIYQGLPT
TGMTITKLESENHRNAFEISGSMIERILVSCTSQQDLHEWVEHLQKQTKVTSVSNPTIKPHSVP SHTLP
SHPLTPSSKHADSKPVALTPAYHTLPHPSHHGTPHTTISWGLEPPKTPKPWSLSCLRPAPL RPSAALC
YKEDLSKSPKTMKLLPKRKPERSDEEFVAVRSTAAL EEDAQILKVEIAYCTSAKTRQTLNSTWQGTD
LMHNVHLADDDQSSLDLGRSSLRLEPSDLSEDSEYDSI WTAHSYRMGSASRSRKESAPQVLLPEEEK
IIVEETKSNQTVIEEKSLVDTVYALKDEVQELRQDNKMKKSLEEEQRARKDLEKLVKVLKNMNDPAW
DETNL
  
```

TRTRPLEQKLI SEEDLAANDILDYKDDDDKV

**Restriction Sites:**

SgfI-MluI

**Cloning Scheme:**

Cloning sites used for ORF Shuttling:



\* The last codon before the Stop codon of the ORF

**ACCN:** NM\_001113518

**ORF Size:** 2115 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\\_001113518.2](#)

**RefSeq Size:** 4665 bp

**RefSeq ORF:** 2118 bp

**Locus ID:** 54126

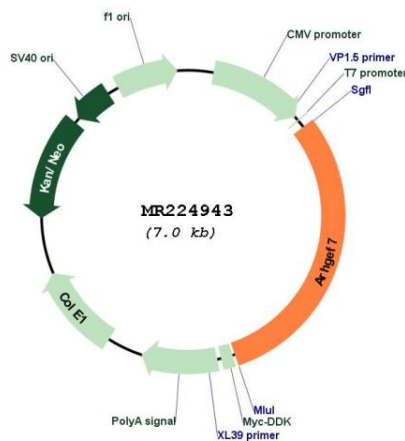
**UniProt ID:** [Q9ES28](#)

**Cytogenetics:** 8 A1.1

**MW:** 80.1 kDa

**Gene Summary:** Acts as a RAC1 guanine nucleotide exchange factor (GEF) and can induce membrane ruffling. May function as a positive regulator of apoptosis. Functions in cell migration, attachment and cell spreading. Promotes targeting of RAC1 to focal adhesions. Downstream of NMDA receptors and CaMKK-CaMK1 signaling cascade, promotes the formation of spines and synapses in hippocampal neurons (By similarity).[UniProtKB/Swiss-Prot Function]

### Product images:



Circular map for MR224943