

Product datasheet for **RC224064**

AIF (AIFM1) (NM_004208) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	AIF (AIFM1) (NM_004208) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	AIF
Synonyms:	AIF; AUNX1; CMT2D; CMTX4; COWCK; COXPD6; DFNX5; NADMR; NAMSD; PDCD8; SEMDHL
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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ORF Nucleotide Sequence:

>RC224064 representing NM_004208
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGGATCGCC**

ATGTTCCGGTGTGGAGGCTGGCGCGGGTCTTTGAAGCAGAAGCTGGTGCCCTTGGTGCGGACCGTGT
 GCGTCCGAAGCCCGAGGAGAGGAACCGCTCCAGGCAACTTGTTCAGCGATGGCATGTTCTCTAGA
 ACTCCAGATGACAAGACAATGGCTAGCTCTGGTGCATCAGGGGCAAAATCGATAAATTCTGTGTAGTC
 CTTATTGTGGCTTATCAACAGTAGGAGCTGGTGCCTATGCCTACAAGACTATGAAAAGAGGATGAAAAA
 GATACAATGAAAGAATTCAGGGTTAGGGCTGACACCAGAACAGAAAAGGCGCGTTATCTGC
 TTCAGAAGGAGAGGAAGTTCTCAAGACAAGGCGCAAGTCATGTTCTTCTGCTAATTGGTGGAGGC
 ACAGCTGCTTTTGTGCAGCCAGATCCATCCGGGCTCGGGATCCTGGGGCCAGGGTACTGATTGTATCTG
 AAGATCCTGAGCTGCCGTACATGCGACCTCTTTCAAAGAAGTGTGGTTTTTCAGATGACCCAAATGT
 CACAAAGACACTGCGATTCAAACAGTGAATGAAAAGAGAGAAGCATATATTTCCAGCCACCTTCTTTC
 TATGCTCTGCTCAGGACCTGCCTCATATTGAGAATGGTGGTGTGGCTGTCTCACTGGGAAGAAGGTAG
 TACAGCTGGATGTGAGAGACAACATGGTAAAATTAATGATGGCTCTCAAATAACCTATGAAAAGTGCTT
 GATTGCAACAGGAGTACTCCAAGAAGTCTGTCTGCCATTGATAGGGCTGGAGCAGAGGTGAAGAGTAGA
 ACAACGCTTTTCAGAAAGATTGGAGACTTTAGAAGCTTGAGAAGATTTACGGGAAGTCAAATCAATTA
 CGATTATCGGTGGGGGCTTCTTGGTAGCGAACTGGCCTGTGCTCTTGGCAGAAAGGCTCGAGCCTTGGG
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 TGGACCATGAAAAAGTCAGACGAGAGGGGTTAAGGTGATGCCAATGCATTGTGCAATCCGTTGGAG
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 GGCTATGAAGCTATTGGTCTTGTGGACAGTAGTTTGGCCACAGTTGGTGTGTTTGGCAAAGCACTGCAC
 AAGACAACCCCAATCTGCCACAGAGCAGTCAGGAACTGGTATCCGATCAGAGAGTGAGACAGAGTCCGA
 GGCCTCAGAAATTAATCTCTCCAGCACCCCGGAGTCCACAGGCTCCCGTCCAGGGGGAGGACTAC
 GGCAAAGTGTGATCTTCTACCTCAGGGACAAAGTGGTCTGGGGATTGTCTATGGAACATCTTTAACCC
 GAATGCCAATAGCAAGGAAGATCATTAAGGACGGTGGAGCAGCATGAAGATCTCAATGAAGTAGCCAACT
 ATCAACATTCATGAAGAC

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence:

>RC224064 representing NM_004208
 Red=Cloning site Green=Tags(s)

MFRCGGLAAGALKQKLVPLVRTVCVRSRQRNRLPGNLFQRWHVPLELQMRQMSSGASGGKIDNSVLV
 LIVGLSTVGAGAYAYKTMKEDEKRYNERISGLGLTPEQKQKKAALSASEGEEVPQDKAPSHVFPFLIGGG
 TAAFAAARSIRARDPGARVLIVSEDPPELPMRPPLSKELWFSDDPNVTKLRFKQWNGKERSIYFQPPSF
 YVSAQDLPHIENGGVAVLTGKKVVQLDVRDNMVKLNDGSQITYEKCLIAATGGTPRSLAIDRAGAEVKS
 TTLFRKIGDFRSLEKISREVKSIITIGGGFLGSELACALGRKARALGTEVIQLFPEKGNMGKILPEYLSN
 WTMEKVRREGVKVMPNAIVQSVGVSSGKLLIKLDGRKVEDHIVAAGLEPNVELAKTGGLEIDSDFGG
 FRVNAELQARSNIWVAGDAACFYDIKLRRRVEHHDHVVVSGRLAGENMTGAAKPYWHQSMFWSDLGPDV
 GYEAIGLVDSLPVGVFAKATAQDNPKSATEQSGTGIRSESETESEASEITIPPSTPAVPQAPVQGEDY
 GKGVI FYLRDKVVVGI VLNIFNRMPIARKIIKDGEQHEDLNEVAKL FNIHED

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Chromatograms: https://cdn.origene.com/chromatograms/mk6475_g01.zip

Restriction Sites: SgfI-MluI

Cloning Scheme:



ACCN: NM_004208

ORF Size: 1839 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_004208.4](#)

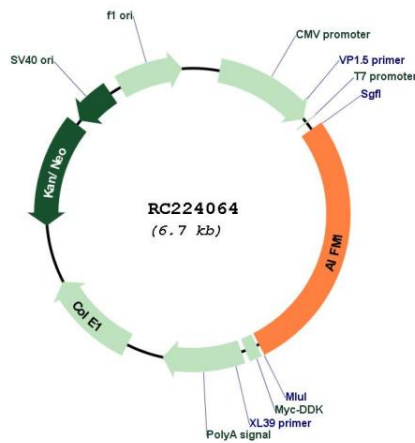
RefSeq Size: 2215 bp

RefSeq ORF: 1842 bp

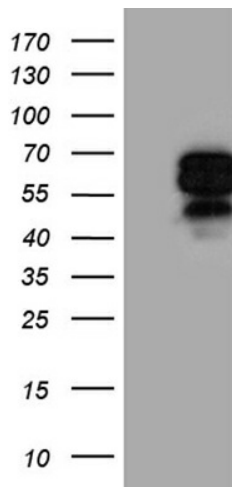
Locus ID: 9131
UniProt ID: [O95831](#)
Cytogenetics: Xq26.1
Domains: pyr_redox
Protein Families: Druggable Genome, Transmembrane
Protein Pathways: Apoptosis
MW: 66.7 kDa

Gene Summary: This gene encodes a flavoprotein essential for nuclear disassembly in apoptotic cells, and it is found in the mitochondrial intermembrane space in healthy cells. Induction of apoptosis results in the translocation of this protein to the nucleus where it affects chromosome condensation and fragmentation. In addition, this gene product induces mitochondria to release the apoptogenic proteins cytochrome c and caspase-9. Mutations in this gene cause combined oxidative phosphorylation deficiency 6 (COXPD6), a severe mitochondrial encephalomyopathy, as well as Cowchock syndrome, also known as X-linked recessive Charcot-Marie-Tooth disease-4 (CMTX-4), a disorder resulting in neuropathy, and axonal and motor-sensory defects with deafness and cognitive disability. Alternative splicing results in multiple transcript variants. A related pseudogene has been identified on chromosome 10. [provided by RefSeq, Aug 2015]

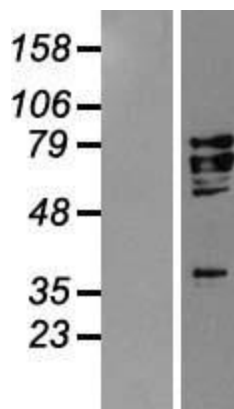
Product images:



Circular map for RC224064



HEK293T cells were transfected with the pCMV6-ENTRY control (Cat# [PS100001], Left lane) or pCMV6-ENTRY AIFM1 (Cat# RC224064, Right lane) cDNA for 48 hrs and lysed. Equivalent amounts of cell lysates (5 ug per lane) were separated by SDS-PAGE and immunoblotted with anti-AIFM1 (Cat# [TA811180])(1:2000).



Western blot validation of overexpression lysate (Cat# [LY418136]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC224064 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified AIFM1 protein (Cat# [TP324064]). The protein was produced from HEK293T cells transfected with AIFM1 cDNA clone (Cat# RC224064) using MegaTran 2.0 (Cat# [TT210002]).