

Product datasheet for RC214673

AKR7A2 (NM_003689) Human Tagged ORF Clone

Product data:

Product Type: Expression Plasmids
Product Name: AKR7A2 (NM_003689) Human Tagged ORF Clone
Tag: Myc-DDK
Symbol: AKR7A2
Synonyms: AFAR; AFAR1; AFB1-AR1; AKR7
Mammalian Cell Selection: Neomycin
Vector: pCMV6-Entry (PS100001)
E. coli Selection: Kanamycin (25 ug/mL)
ORF Nucleotide Sequence: >RC214673 representing NM_003689
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGATCGC**C

ATGCTGAGTGCCGCTCTCGCGTAGTCTCCCGCGCCGCCGTCCACTGCGCGCTTCGCTCTCCGCCGCCG
 AGGCCCGCGCTCGCCATGTCCCGCCACCGCCACCGGGTCGCTCGGTGCTGGGCACCATGGAGAT
 GGGGGCCGCATGGACGCGCCCGCAGCGCCGCGCCGTGCGCGCCTTCTGGAGCGGGCCACACCGAA
 CTGGACACGGCCTTCATGTACAGCGACGCCAGTCCGAGACCATCCTGGGCGGCCTGGGGCTCGGGCTGG
 GCGGTGGCGACTGCAGAGTGAAAATTGCCACCAAGGCCAACCCTTGGGATGGAAAATCACTAAAGCCTGA
 CAGTGTCCGGTCCCAGCTGGAGACGTATTGAAGAGGCTGCAAGTGTCCCAAGTGGACCTTCTACCTA
 CACGCACCTGACCACGGCACCCCGGTGGAAGAGACGCTGCATGCCTGCCAGCGGCTGCACCAGGAGGGCA
 AGTTTCGTGGAGCTTGGCCTCTCCAATATGCTAGCTGGGAAGTGGCCGAGATCTGTACCCTCTGCAAGAG
 CAATGGCTGGATCCTGCCACTGTGTACCAGGGCATGTACAACGCCACCACCCGGCAGGTGGAAACGGAG
 CTCTTCCCCTGCCTCAGGCACTTGGACTGAGGTTCTATGCCTACAACCTCTGGCTGGGGGCTGCTGA
 CTGGCAAGTACAAGTATGAGGACAAGGACGGGAAACAGCCTGTGGGCCGCTTCTTTGGGAATAGCTGGGC
 TGAGACCTACAGGAATCGCTTCTGGAAGGAGCACCCTCGAGGCCATTGCGTTGGTGGAGAAGGCCCTG
 CAGGCCGATATGGCGCCAGCGCCCCAGTGTGACCTCGGCTGCCCTCCGGTGGATGTACCACCACTCAC
 AGCTGCAGGGTGCCACGGGGACGCGGTATCCTGGGCATGTCCAGCCTGGAGCAGCTGGAGCAGAACTT
 GGCAGCAACAGAGGAAGGCCCTGGAGCCGGCTGTCGTGGATGCCTTTAATCAAGCCTGGCATTGGTT
 GCTCACGAATGTCCCACTACTCCGC

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTAA



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Protein Sequence: >RC214673 representing NM_003689
Red=Cloning site Green=Tags(s)

MLSAASRVVSRAAVHCALRSPPEARALAMSRPPPPRVASVLGTMEMGRRMDAPASAAAVRAFLERGHTE
 LDATFMYSDGQSETILGGLGLGLGGDCRVKIATKANPWDGKSLKPDVSRVSRQLETSLKRLQCPQVDFYL
 HAPDHGTPVEETLHACQRLHQEGKFVELGLSNYASWEVAEICTLCKSNGWILPTVYQGMYNATTRQVETE
 LFPCLRHFGRLRFYAYNPLAGLLTGKYKVEDKDGKQPVGRFFGNSWAETYNRNFWKEHHFEAIALVEKAL
 QAAYGASAPSVTSAALRWMYHHSQLQGAHGDAVILGMSSLEQLEQNLAATEEGPLEPAVVDVAFNQAWHLV
 AHECPNYFR

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Chromatograms: https://cdn.origene.com/chromatograms/ja1543_h10.zip

Restriction Sites: SgfI-MluI

Cloning Scheme:



* The last codon before the Stop codon of the ORF

ACCN: NM_003689

ORF Size: 1077 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_003689.3](#)

RefSeq Size: 1377 bp

RefSeq ORF: 1080 bp

Locus ID: 8574

UniProt ID: [O43488](#)

Cytogenetics: 1p36.13

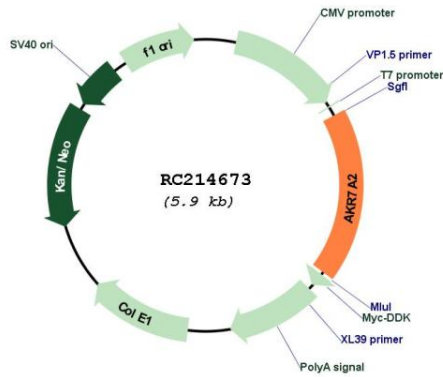
Domains: aldo_ket_red

Protein Families: Druggable Genome

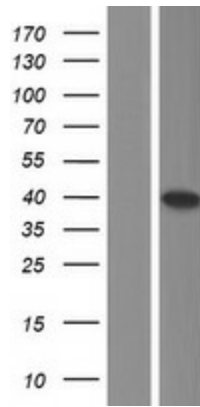
MW: 39.4 kDa

Gene Summary: The protein encoded by this gene belongs to the aldo/keto reductase (AKR) superfamily and AKR7 family, which are involved in the detoxification of aldehydes and ketones. The AKR7 family consists of 3 genes that are present in a cluster on the p arm of chromosome 1. This protein, thought to be localized in the golgi, catalyzes the NADPH-dependent reduction of succinic semialdehyde to the endogenous neuromodulator, gamma-hydroxybutyrate. It may also function as a detoxication enzyme in the reduction of aflatoxin B1 and 2-carboxybenzaldehyde. Alternative splicing results in multiple transcript variants. [provided by RefSeq, Mar 2016]

Product images:



Circular map for RC214673



Western blot validation of overexpression lysate (Cat# [LY418497]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC214673 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).