

Product datasheet for RC200302

AKR1A1 (NM_006066) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	AKR1A1 (NM_006066) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	AKR1A1
Synonyms:	ALDR1; ALR; ARM; DD3; HEL-S-6
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
ORF Nucleotide Sequence:	>RC200302 ORF sequence Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCC**CGATCGCC**

ATGGCGGCTTCTGTGTTCTACTGCACACTGGGCAGAAGATGCCTCTGATTGGTCTGGGTACCTGGAAGA
GTGAGCCTGGTCAGGTAAGCAGCTGTTAAGTATGCCCTTAGCGTAGGCTACCGCCACATTGATTGTGC
TGCTATCTACGGCAATGAGCCTGAGATTGGGGAGGCCCTGAAGGAGGACGTGGGACCAGGCAAGGCGGTG
CCTCGGGAGGAGCTGTTTGTGACATCCAAGCTGTGGAACACCAAGCACCACCCGAGGATGTGGAGCCTG
CCCTCCGAAGACTCTGGCTGACCTCCAGCTGGAGTATCTGGACCTGTACCTGATGCACTGGCCTTATGC
CTTTGAGCGGGGAGACAACCCCTTCCCAAGAATGCTGATGGGACTATATGCTACGACTCCACCCACTAC
AAGGAGACTTGAAGGCTCTGGAGGCACTGGTGGCTAAGGGGCTGGTGCAGGCGCTGGGCCCTGTCCAAT
TCAACAGTCGGCAGATTGATGACATACTCAGTGTGGCCTCCGTGCGTCCAGCTGTCTTGCAGGTGGAATG
CCACCCATACTTGGCTCAAAATGAGCTAATTGCCCACTGCCAAGCACGTGGCCTGGAGGTAAGTCTTAT
AGCCCTTTGGGCTCCTCTGATCGTGCATGGCGTATCCTGATGAGCCTGTCTGCTGGAGGAACAGTAG
TCCTGGCATTGGCTGAAAAGTATGGCCGATCTCCAGCTCAGATCTTGCTCAGGTGGCAGGTCCAGCGGAA
AGTGATCTGCATCCCCAAAAGTATCACTCCTTCTCGAATCCTTCAGAACATCAAGGTGTTTGACTTCACC
TTTAGCCAGAAGAGATGAAGCAGCTAAATGCCCTGAACAAAAATTGGAGATATATTGTGCCTATGCCTTA
CGGTGGATGGGAAGAGAGTCCCAAGGGATGCAGGGCATCCTCTGACCCCTTAATGACCCGTAC

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAATGATATCCTGGATT
ACAAGGATGACGACGATAAGGTTTAA



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Protein Sequence: >RC200302 protein sequence
Red=Cloning site Green=Tags(s)

MAASCVLLHTGQKMPLIGLGTWKSEPGQVKAASKYALSVGYRHIDCAAIYGNPEIGEALKEDVGPVKAV
 PREELFVTSKLVNTKHHPEDEVPAALRKTADLQLEYLDLYLMHWPYAFERGDNPFKPADGTICYDSTHY
 KETWKALEALVAKGLVQALGLSNFNSRQIDDILSVASVRPAVLQVECHPYLAQNELIAHCQARGLEVTA
 Y SPLGSSDRAWRPDEPVLLLEPVVLLALAEKYGRSPAQIILLRWQVQRKVICIPKSI TPSRILQNIKVFDF
 T FSPEEMKQLNALNKNWRYIVPMLTVDGKRVPRDAGHPLYPFNDPY

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Chromatograms: https://cdn.origene.com/chromatograms/mk6128_h08.zip

Restriction Sites: SgfI-MluI

Cloning Scheme:

Cloning sites used for ORF Shuttling:



* The last codon before the Stop codon of the ORF

ACCN: NM_006066

ORF Size: 975 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.

Note: Plasmids are not sterile. For experiments where strict sterility is required, filtration with 0.22um filter is required.

RefSeq: [NM_006066.4](#)

RefSeq Size: 1597 bp

RefSeq ORF: 978 bp

Locus ID: 10327

UniProt ID: [P14550](#)

Cytogenetics: 1p34.1

Domains: aldo_ket_red

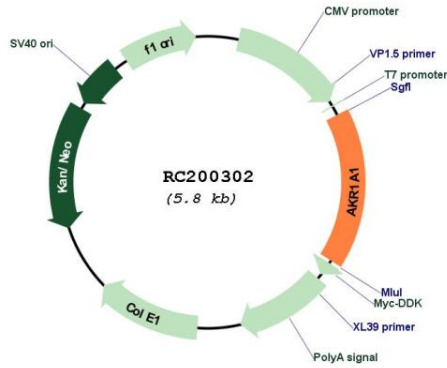
Protein Families: Druggable Genome

Protein Pathways: Glycerolipid metabolism, Glycolysis / Gluconeogenesis, Metabolic pathways

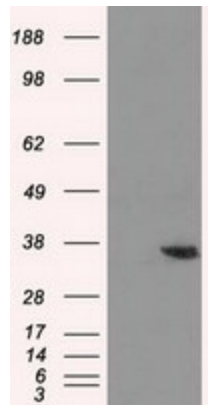
MW: 36.6 kDa

Gene Summary: This gene encodes a member of the aldo/keto reductase superfamily, which consists of more than 40 known enzymes and proteins. This member, also known as aldehyde reductase, is involved in the reduction of biogenic and xenobiotic aldehydes and is present in virtually every tissue. Multiple alternatively spliced transcript variants of this gene exist, all encoding the same protein. [provided by RefSeq, Jan 2011]

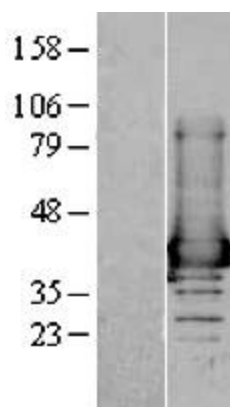
Product images:



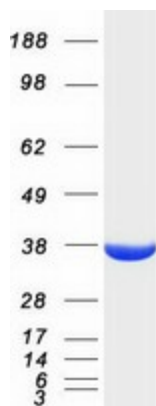
Circular map for RC200302



HEK293T cells were transfected with the pCMV6-ENTRY control (Cat# [PS100001], Left lane) or pCMV6-ENTRY AKR1A1 (Cat# RC200302, 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-AKR1A1(Cat# [TA500745]). Positive lysates [LY401826] (100ug) and [LC401826] (20ug) can be purchased separately from OriGene.



Western blot validation of overexpression lysate (Cat# [LY401826]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC200302 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified AKR1A1 protein (Cat# [TP300302]). The protein was produced from HEK293T cells transfected with AKR1A1 cDNA clone (Cat# RC200302) using MegaTran 2.0 (Cat# [TT210002]).