

Product datasheet for MC210185

Akr1a1 (NM_021473) Mouse Untagged Clone

Product data:

Product Type: Expression Plasmids
Product Name: Akr1a1 (NM_021473) Mouse Untagged Clone
Tag: Tag Free
Symbol: Akr1a1
Synonyms: 2610201A18Rik; Akr1a4
Vector: pCMV6-Entry (PS100001)
E. coli Selection: Kanamycin (25 ug/mL)
Cell Selection: Neomycin
Fully Sequenced ORF: >MC210185 representing NM_021473
 Red=Cloning site Blue=ORF Orange=Stop codon

TTTTGTAATACGACTCACTATAGGGCGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**GCGATCGCC**

ATGACGGCCTCCAGTGTCTCTGCACACTGGACAGAAGATGCCTCTGATTGGTCTGGGGACATGGAAGA
 GTGAGCCTGGTCAGGTGAAAGCAGCCATTAACATGCCCTTAGCGCAGGCTACCGCCACATTGATTGTGC
 TTCTGTATATGGCAATGAAACTGAGATTGGGGAGGCCCTGAAGGAGAGTGTGGGGTCAAGGAGGAGTGC
 CCTCGAGAGGAGCTGTTTGTGACATCCAAGCTGTGGAATACTAAGCACCACCTGAGGATGTAGAACCTG
 CCCTCCGGAAGACACTGGCTGATCTGCAACTGGAGTATTTGGACCTCTATTTGATGCACTGGCCTTATGC
 CTTTGAGCGGGGAGACAATCCCTTTCCCAAGAATGCCGATGGAAGTGTGAGATGACTCAACTCACTAT
 AAAGAGACCTGGAAGGCTCTGGAGGTAAGTGGTGGCAAAGGGGCTGGTGAAGCCCTGGGCTTGCCAACT
 TCAACAGTCGGCAGATTGATGATGTCCTCAGTGTGGCCTCTGTGCGCCAGCTGTCTTGCAGGTGGAATG
 CCATCCATACCTGGCTCAGAATGAGCTCATTGCCACTGTCACGCACGGGGCTTGAGGTGACTGCTTAT
 AGCCCCTTGGGTTCCCTGACCGTGTGGCGCCATCCTGATGAGCCAGTCTGCTTGAAGAACCAGTAG
 TCTTGGCACTAGCTGAAAAACATGGCCGATCTCCAGCTCAGATCTTGTAGATGGCAGGTTCAGCGGAA
 AGTGATCTGCATCCCCAAAAGCATCAATCCTTCCGCATCCTTCCAGAACATTGAGGATTTGATTTCAACC
 TTTAGCCAGAGGAGATGAAACAATTAGATGCTCTGAACAAAAATTGGCGGTATATTGTGCCATGATTA
 CGGTGGATGGGAAGAGGGTTCCAGAGATGCTGGACACCCTCTGTATCCCTTTAATGACCCATAC**TGA**

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

Restriction Sites: SgfI-MluI
ACCN: NM_021473
Insert Size: 978 bp



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OTI Disclaimer:	Our molecular clone sequence data has been matched to the reference identifier above as a point of reference. Note that the complete sequence of our molecular clones may differ from the sequence published for this corresponding reference, e.g., by representing an alternative RNA splicing form or single nucleotide polymorphism (SNP).
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_021473.3 , NP_067448.1
RefSeq Size:	1435 bp
RefSeq ORF:	978 bp
Locus ID:	58810
UniProt ID:	Q9JII6
Cytogenetics:	4 D1
Gene Summary:	Catalyzes the NADPH-dependent reduction of a wide variety of carbonyl-containing compounds to their corresponding alcohols. Displays enzymatic activity towards endogenous metabolites such as aromatic and aliphatic aldehydes, ketones, monosaccharides and bile acids, with a preference for negatively charged substrates, such as glucuronate and succinic semialdehyde (By similarity) (PubMed:22820017, PubMed:15769935, PubMed:20410296). Plays an important role in ascorbic acid biosynthesis by catalyzing the reduction of D-glucuronic acid and D-glucurono-gamma-lactone (PubMed:20410296, PubMed:15769935, PubMed:22820017). Functions as a detoxifying enzyme by reducing a range of toxic aldehydes. Reduces methylglyoxal and 3-deoxyglucosone, which are present at elevated levels under hyperglycemic conditions and are cytotoxic (By similarity). Involved in the detoxification of lipid-derived aldehydes like acrolein (By similarity). Plays a role in the activation of procarcinogens, such as polycyclic aromatic hydrocarbon trans-dihydrodiols, and in the metabolism of various xenobiotics and drugs (By similarity). Displays no reductase activity towards retinoids (By similarity).[UniProtKB/Swiss-Prot Function]