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Product datasheet for MG204522

Akr1b3 (NM_009658) Mouse Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Akr1b3 (NM_009658) Mouse Tagged ORF Clone
Tag:	TurboGFP
Symbol:	Akr1b3
Synonyms:	Ahr-1; Ahr1; Akr1b1; Aldor1; Aldr1; ALR2; AR
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)

ORF Nucleotide Sequence:

>MG204522 representing NM_009658
Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCCGCGATCGCC

ATGGCCAGCCATCTGGAACTCAACAACGGCACCAAGATGCCCACCCTGGGCCTGGGCACCTGGAAGTCCC
CTCCTGGCCAGGTGACTGAGGCCGTGAAAGTTGCTATTGACTTGGGGTACCGCCACATTGACTGCGCCCA
GGTGTACCAGAATGAGAAGGAGGTGGGAGTGGCCCTCCAGGAGAAGCTCAAGGAGCAGGTGGTGAAGCGG
CAGGATCTCTTCATTGTCAGCAAGCTGTGGTGCACGTTCCATGACAAGAGCATGGTGAAAGGAGCCTTCC
AGAAGACACTGAGCGACCTGCAGCTGGACTACCTGGATCTCTACCTTATTCACTGGCCAACGGGGTTCAA
GCCTGGGCCCGACTATTTCCCACTGGATGCCTCAGGGAACGTGATACCTAGTGACACCGATTTTGTGGAC
ACTTGGACGGCTATGGAACAACTAGTGGATGAAGGTTTGGTGAAAACAATCGGTGTCTCCAACTTCAACC
CTCTTCAGATTGAGAGGATCTTGAACAAACCTGGCTTAAAATATAAGCCTGCGGTGAACCAGATCGAGTG
CCACCCGTACCTAACTCAGGAGAAGCTGATTGAATACTGCCACAGCAAAGGCATCGTGGTGACAGCATAT
AGTCCCCTTGGTTCTCCTGACAGGCCCTGGGCCAAGCCTGAAGATCCGTCTCTCCTGGAGGATCCCAGGA
TCAAAGCAATTGCAGCCAAGTACAATAAAACTACAGCCCAGGTGCTGATCCGGTTCCCCATTCAGAGGAA
CTTGGTAGTGATCCCCAAGTCGGTGACACCAGTGCGCATTGCTGAGAACTTGAAGGTCTTTGACTTTGAG
CTGAGCAGCGAGGACATGGCCACTCTACTCAGCTACAACAGGAACTGGAGGGTGTGCGCCTTGATGAGCT
GTGCCAAACACAAGGATTACCCCTTCCACGCCGAAGTC

ACGCGTACGCGGCCGCTCGAG - GFP Tag - GTTTAA

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Protein Sequence:

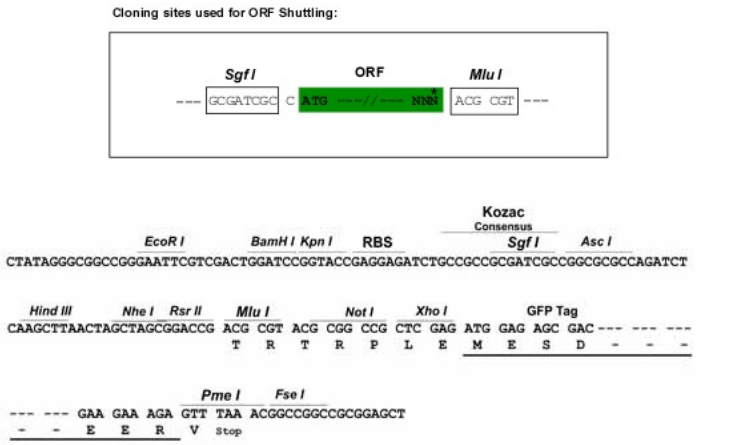
>MG204522 representing NM_009658
Red=Cloning site Green=Tags(s)

MASHLELNNGTKMPTLGLGTWKSPPGQVTEAVKVAIDLGYRHIDCAQVYQNEKEVGVALQEKLKEQVVKR
QDLFIVSKLWCTFHDKSMVKGAFQKTLSDLQLDYLDLYLIHWPTGFKPGPDYFPLDASGNVIPSDTDFVD
TWTAMEQLVDEGLVKTIGVSNFNPLQIERILNKPGLKYKPAVNQIECHPYLTQEKLIEYCHSKGIVVTAY
SPLGSPDRPWAKPEDPSLLEDPRIKAIAAKYNKTTAQVLIRFPIQRNLVVIPKSVTPVRIAENLKVFDFE
LSSEDMATLLSYNRNWRVCALMSCAKHKDYPFHAEV

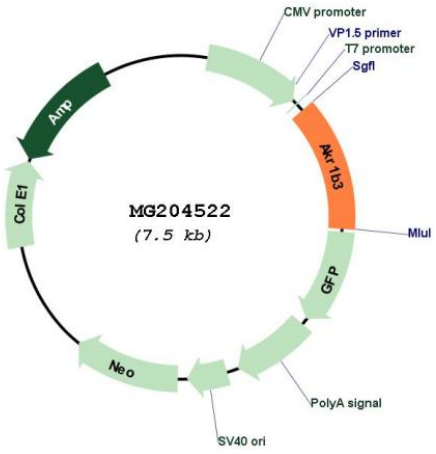
TRTRPLE – GFP Tag – V

Restriction Sites: SgfI-MluI

Cloning Scheme:



Plasmid Map:



ACCN: NM_009658

ORF Size: 948 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_009658.2, NP_033788.2
RefSeq Size:	1402 bp
RefSeq ORF:	951 bp
Locus ID:	11677
UniProt ID:	P45376
Cytogenetics:	6 B1
Gene Summary:	Catalyzes the NADPH-dependent reduction of a wide variety of carbonyl-containing compounds to their corresponding alcohols (PubMed:17381426, PubMed:19010934, PubMed:7851421). Displays enzymatic activity towards endogenous metabolites such as aromatic and aliphatic aldehydes, ketones, monosacharides, bile acids and xenobiotics substrates. Key enzyme in the polyol pathway, catalyzes reduction of glucose to sorbitol during hyperglycemia. Reduces steroids and their derivatives and prostaglandins (PubMed:19010934). Displays low enzymatic activity toward all-trans-retinal, 9-cis-retinal, and 13-cis-retinal. Catalyzes the reduction of diverse phospholipid aldehydes such as 1-palmitoyl-2-(5-oxovaleroyl)-sn -glycero-3-phosphoethanolamin (POVPC) and related phospholipid aldehydes that are generated from the oxydation of phosphotidylcholine and phosphatdyleethanolamides (PubMed:17381426). Plays a role in detoxifying dietary and lipid-derived unsaturated carbonyls, such as crotonaldehyde, 4-hydroxynonenal, trans-2-hexenal, trans-2,4-hexadienal and their glutathione-conjugates carbonyls (GS-carbonyls) (By similarity). [UniProtKB/Swiss-Prot Function]