

Product datasheet for **MG225887**

Aloxe3 (NM_011786) Mouse Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Aloxe3 (NM_011786) Mouse Tagged ORF Clone
Tag:	TurboGFP
Symbol:	Aloxe3
Synonyms:	e-LOX-3; eLOX-3
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



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ORF Nucleotide Sequence:

>MG225887 representing NM_011786
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGGATCGCC**

ATGGCAGTATATCGGCTGTGTGACCCTGGTTCTACCTGAAGGCTGGCACATTGGATAACATCTATG
 CTACATTGGTAGGCACCTGTGGTGAAAGCCCTAAGCAGAAGCTGGATCCGGTAGGCAGGGACTTCGCCTC
 TGGATCGGTTTCAAGTACAAGGTGCGCTGTGAAGCAGAGCTGGGTGAGATCTTGCTGTTGCGCTTACAC
 AAGGAGCGCTTTGCTTTCTTCTGCAAGGACCCTTGGTACTGCAGTCGCATCTGTGTCACTGCCCCGATG
 GCTCTGTGTCCACTTTCCCTGTACCAGTGGATCGATGGCTACTGTACTGTGGAGCTGCGGCCAGGAAC
 AGCAAGAACCATCTGTCAGGATTCTTCCCTCCTTCTGGACCACAGGAAACGGGAACTCCGAGCCCGC
 CAAGAATGTTATCGCTGGAAGATCTTGGCCCTGGCTCCCTCGGATGGTGGATGTCAGCAGCTTTCAGG
 AGATGGAGTCAGATAAGAAATTTGCCTTGACCAAGACAGTACCTTGTGCAGAACAGGATGACAACTGG
 GAACCGGTACCTGCCTGGCTTTCTATGAAGATTGACATCCCATCTCTGCTGCACATGGAACCAACATT
 CGATACTCAGCCACCAAGACGGCCTCACTGATCTTCAACGCCCTTCTGCATCCTTTGGCATGAAGATTC
 GAGGTCTCCTGGACCGCAAGGGCTCCTGGAAGAGGCTGGACGACATCCGGAACATCTTCTGGTGCCATAA
 GACCTTCACTTACAGTACGTACCCGAGCATTGGTGTGAGGACAGCTTCTTTGGGTACCAGTACCTGAAT
 GGTGTCAACCCTGTATGCTTCAATGCCTCTCCAGCTTGGCCAGCAAGCTGCCTGTACCAATGACATGG
 TGGCACCTTTGCTGGGACCAGGCACCTGCCTACAAACAGAGCTAGAGAGGGGGCAGATCTTCTGGCGGA
 CTACTGGATCCTGGCGGAGGCCAGTCCATTGCATAAACAGTCTCCAACAGTACGTAACAGCGCCCTC
 TGCTGTTGTGGCTCAACCCACAGGGGGTGTGCTGCCATTGGCAATCCAGCTCAGCCAGACACCGGGC
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 CTCTGAGTTTTTGGTGCACGAGAACAACACGCATTTTCTGTGCACGCATTTGCTATGCGAGGCCTTCTCC
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 ATCCATGAGGCAGCTCCGCCTCAGACCAAGGGCGACACGACAATGAAGAGTTACCTAGACACCTCCCA
 GAGGTGAACACCACCTGTAGAACTTCTCCTTCTCTGGCTGGTCAAGAGCCAAAGGACCAGAGGC
 CTCTGGGCACCTACCCAGATGAACACTTACAGAGGAGGCCACGGCAGAGCATCGCAGCTTCCAGAA
 CTGCTGGCCAGATCTCAAAGGACATCAGGGAGCGCAACCAGAGCCTGGCACTGCCCTATGCCTACTTG
 GATCCTCCACTCATTGAGAACAGTGTTCATT

ACGCGTACGCGGCCGCTCGAG - GFP Tag - GTTTAA

Protein Sequence: >MG225887 representing NM_011786
 Red=Cloning site Green=Tags(s)

MAVYRLCVTTGSYLKAGTLDNIYATLVGTCGESPKQLDRVGRDFASGSVQKYKVRCEAELGEILLRLH
 KERFAFFCKDPWYCSRICVTAPDGSVHFPCYQWIDGYCTVELRPGTARTICQDSLPLLLDHRKRELRAR
 QECYRWKIFAPGFPRMVDVSSFQEMESDKKFFALTKTVPCAEQDDNSGNRYLPGFPMKIDIPSLLMPEPNI
 RYSATKTASLIFNALPASFGMKIRGLLDRKGSWKRLDDIRNIFWCHKFTTSEYVTEHWCEDSFFGYQYLN
 GVPVMLHCLSSLPSKLPVTNDMVAPLLGPGTCLQTELERGHIIFLADYWILAEAPVHCINSLQQYVTAPL
 CLLWLNPGQVLLPLAIQLSQTPGPESPIFLPTDCELDWLLAKTWVRNSEFLVHENNTHFLCTHLLCEAFS
 MATLRQLPLCHPYKLLLPHTRYTLQVNTIARATLLNPDGLVDKVTSIGRQGLIYLMSTGLAHFTYDFC
 LPDSIRARGVLTIPNYHYRDDGLKIWAAIERFVSEIVSYYPSPDASVQQDCELAQAWGEIFAQAFLGRES
 SGFPSRLCTPGELVKYLTAIIFNCSAQHAAVNSGQHDFGAWMPNAPSSMRQPPPQTKGDTTMSYLDLTP
 EVNTTCRNLLLFWLVSQEPKQRPGLGTYPDEHFTTEAPRQSIAAFQNCLAQISKDIRERNQSLALPYAYL
 DPPLIENSVSI

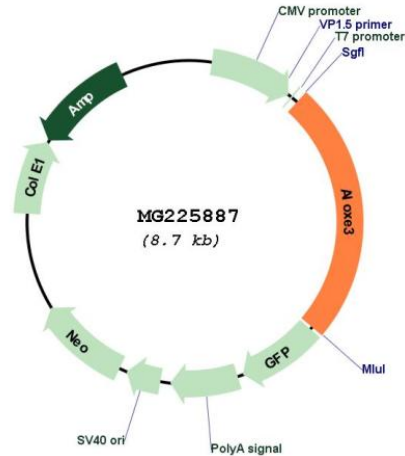
TRTRPLE - GFP Tag - V

Restriction Sites: SgfI-MluI

Cloning Scheme:

Cloning sites used for ORF Shutting:



Plasmid Map:


ACCN: NM_011786

ORF Size: 2133 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_011786.2](#), [NP_035916.2](#)

RefSeq Size: 2538 bp

RefSeq ORF: 2136 bp

Locus ID: 23801

UniProt ID: [Q9WV07](#)

Cytogenetics: 11 42.38 cM

Gene Summary: Non-heme iron-containing lipoxygenase which is atypical in that it displays a prominent hydroperoxide isomerase activity and a reduced dioxygenase activity compared to other lipoxygenases. The hydroperoxide isomerase activity catalyzes the isomerization of hydroperoxides, derived from arachidonic and linoleic acid by ALOX12B, into hepoxilin-type epoxyalcohols. The dioxygenase activity requires a step of activation of the enzyme by molecular oxygen. In presence of oxygen, oxygenates polyunsaturated fatty acids, including arachidonic acid, to produce fatty acid hydroperoxides. In the skin, acts downstream of ALOX12B on the linoleate moiety of esterified omega-hydroxyacyl-sphingosine (EOS) ceramides to produce an epoxy-ketone derivative, a crucial step in the conjugation of omega-hydroxyceramide to membrane proteins. Therefore plays a crucial role in the synthesis of corneocytes lipid envelope and the establishment of the skin barrier to water loss. In parallel, it may have a signaling function in barrier formation through the production of hepoxilins metabolites. Plays also a role in adipocyte differentiation through hepoxilin A3 and hepoxilin B3 production which in turn activate PPARG. Through the production of hepoxilins in the spinal cord, it may regulate inflammatory tactile allodynia.[UniProtKB/Swiss-Prot Function]