

## Product datasheet for **RN213879**

### **Aloxe3 (NM\_001105793) Rat Untagged Clone**

#### **Product data:**

Product Type:	Expression Plasmids
Product Name:	Aloxe3 (NM_001105793) Rat Untagged Clone
Tag:	Tag Free
Symbol:	Aloxe3
Synonyms:	e-LOX-3; eLOX-3
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
Cell Selection:	Neomycin



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**Fully Sequenced ORF:** >RN213879 representing NM\_001105793  
 Red=Cloning site Blue=ORF Orange=Stop codon

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**GCGATCGCC**

ATGGCAGTATATCGCCTGTGTGTGACCACTGGTTCCTACCTGAAGGCTGGCACATTGGATAACATCTATG  
 CTACACTGGTAGGCACCTGTGGTGAAAGCCCTAAGCAGAAGCTGGATCGTGTAGGCAGGGACTTCGCCAC  
 CGGATCGGTTTCAAGTACAAGGTGCGCTGTGCATCAGAGCTGGGTGAGATCTTGTCTTGTGCGCTTACAC  
 AAGGAGCGCTTTGCTTTCTTCTGCAAGGATCCTTGGTACTGCAGTCGCATCTGTGTCACTACCCAGATG  
 GCTCTGTGGTCACTTTCCCTGTATCAGTGGATCGATGGCTACTGTACTGTGGAGCTTCGCCAGGAAC  
 AGCAAGAACCATCTGCCAGGATGCTTCCCTCCTTCTGGATCACAGGAAGCGTGAACCTCAAGCCCGC  
 CAAGAATGCTACCGCTGGAAGATCTATGCCCTGGTTCCCTCGAATGGTGGATGTCAGCAGCTTTGAGG  
 AGATGGAGTCAGATAAGAAATTTGCCTTGACCAAGACGGCGCCTTGTGCAGACCAGGATGATAACTCTGG  
 GAACCGGTACCTGCCTGGCTTTCTATGAAAGTTGACATCCCATCTCTGCTGCACATGGAGCCCAACATT  
 CGCTACTCAGCCACCAAGACAGCCTCACTCATCTTCAACGCCCTTCTGCATCCTTGGGCATGAAGATTC  
 GAGGTCTGCTAGACCGCAAGGGCTCCTGGAAGAGGCTGGATGACATCCGGAACATCTTCTGGTGTATAA  
 GACCTTCACTTACAGATATGTCACCGAGCACTGGTGTGAGGACAGCTTCTTTGGGTACCACTGACATG  
 GGTGTCAATCCCATCATGCTCCACTGCCTCTCCAGTCTGCCAGCAAGCTGCCTGTACCAATGACATGG  
 TGGCACCTTTGCTGGGACCCGGCACCTGCCTGCAACAGAGCTAGAGAGGGGGCACATCTTCTTAGCGGA  
 CTACTGGATCCTGGCGGAGGCCAGTCCATTGCCTAACGGCCGCCAACAGTACGTAACAGCTCCTCTC  
 TGCCTGTTATGGCTCAACCCACAGGGGGTGTGCTGCCGTTGGCAATCCAGCTCAGCCAGATACAGGGGC  
 CAGAGAGCCCATCTTTTCACTACCTGACTGCGAGTTGGATTGGCTGCTGGCCAAGACGTGGGTGGC  
 CACTGAGTTTTTGGTGCATGAGAACAACACGCATTTTCTGTGCACGCATTTGCTCTGCGAGGCCTTCTCC  
 ATGGCTACACTGCGTCAGCTGCCCTCTGTATCCAGTCTACAAGCTCCTGCTTCTCACACTCGTACA  
 CACTGCAAGTGAACACCATCGCAAGGGCCACACTGCTCAACCCAGACGGCCTCGTGGACAAGGTACATC  
 CATCGGTAGGCGCGCCTCATCTACCTCATGAGCACAGGGCTGGCCACTTACCTACACGGATTCTGC  
 CTTCCGGATAGCCTACGGGCTCGTGGTGTCTGACCATCCCAACTACCACTACCGAGACGACGGCCTCA  
 AGATCTGGGCGGCTATTGAGAGTTTGTCTCCGAGATTGTGAGTACTATTACCCCAACGATGCCTGTGT  
 GCAGCAGGACTCTGAGCTGCAGGCTGGTGGGTGAGATTTTGTCTCAGGCATTCCTCGTGGGAGAGT  
 TCAGGCTTCCCAAGCAGGCTGTGCACCCAGGAGACTCGTGAAGTATCTCACTGCAATCATCTTTAACT  
 GCTCCGCCAGCAGCTGCAGTCAACAGTGGGCAGCAGACTTTGGGGCCTGGATGCCCAATGCCCGCTC  
 ATCCATGAGGCAGCCTCCACCTCAGACCAAGGGCAACACGACAATGGAGAGTTACCTCGAAACCTCCCA  
 GAGGTGAACACCACCTGTAGCAACCTTCTCCTTCTCTGGTGGTCAAGGCAAGGCAAGGACAGAGGC  
 CTCTGGGCACCTACCCAGACGAACACTTACAGAGGAGGCCCCACGGCAAGCATCGCAGCCTTCCAGAA  
 GTGCTGGCACAGATCTCAAAGGACATCAGGGCACGCAACGAGAGCCTGGCACTACCTATGCCTACTTG  
 GATCCACCACTCATTGAGAACAGTGTCTCCATC**TAG**

**ACGCGT**ACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT  
 ACAAGGATGACGACGATAAGGTTTAA

**Restriction Sites:** SgfI-MluI  
**ACCN:** NM\_001105793  
**Insert Size:** 2136 bp

**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).

<b>Components:</b>	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).
<b>Reconstitution Method:</b>	<ol style="list-style-type: none"><li>1. Centrifuge at 5,000xg for 5min.</li><li>2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.</li><li>3. Close the tube and incubate for 10 minutes at room temperature.</li><li>4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.</li><li>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.</li></ol>
<b>RefSeq:</b>	<u>NM_001105793.1, NP_001099263.1</u>
<b>RefSeq Size:</b>	2525 bp
<b>RefSeq ORF:</b>	2136 bp
<b>Locus ID:</b>	287424
<b>UniProt ID:</b>	<u>D3ZKX9</u>
<b>Cytogenetics:</b>	10q24
<b>Gene Summary:</b>	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 activates PPARG. Through the production of hepoxilins in the spinal cord, it may regulate inflammatory tactile allodynia.[UniProtKB/Swiss-Prot Function]