

## Product datasheet for RN211283

### Aox1 (NM\_019363) Rat Untagged Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	Aox1 (NM_019363) Rat Untagged Clone
Tag:	Tag Free
Symbol:	Aox1
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
Cell Selection:	Neomycin
Fully Sequenced ORF:	>RN211283 representing NM_019363 Red=Cloning site Blue=ORF Orange=Stop codon

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
GCCCGGATCGCC

ATGGATCCCCCGAGCTGCTCTTCTACGTGAATGGCCAGAAGGTGGTAGAAAACAATGTTGATCCTGAGA  
TGATGCTTTTACCGTACCTGAGGAAGAACCTCCGACTCACGGAACTAAGTATGGCTGTGGAGGCGGCGG  
CTGCGGTGCTGCACAGTGATGATCTCACGGTACAACCCAGCACCAAGAGCATCAGGCATCATCTGTG  
AATGCCTGTCTGACCCCATCTGCTCTCTGTACGGTACAGCAGTACCACAGTAGAGGGCATAGGCAACA  
CCAGGACCAGACTTCATCTGTTTCAGGAGAGGATCGCCAAGTGTACAGCACCCAGTGTGGGTTCTGTAC  
CCCTGCGAGGGTGTGTCATGTATGCTCTGCTCAGGAACCCAGAGCCCTCTCTAGATCAGTTAACT  
GATGCCCTTGGGGGAATCTGTGCCGTGTACCGGATACAGGCCATAATTGACGCTTGAAGACTTTCT  
GTAGAGCTTCTGGTTGCTGTGAAAGTAAAGAAAATGGGGTGTGCTGTTTGGATCAAGGAATAAATGGATC  
GGCAGAATTTAGGAAGGAGATGAGACAAGTCCAGAACTGTTCTCGGAAAAGGAATTTAGCCACTGGAC  
CCAACCAAGAGCTGATATTTCTCCAGAGCTAATGAGAATAGCCGAGAAACAGCCACCAAGACCAGAG  
TGTTCTACAGTAATAGAATGACATGGATCTCCCGGTGACCTGGAGAACTTGTGGAAGCTAAGTTCAA  
GTATCCTGGGGCCCCATTGTGATGGGGTACACCTCTGTGGGGCCTGAAGTAAAGTTAAAGGTGTCTTC  
CACCCCATCATAATTTCTCCTGACAGAATTGAAGAGCTGAGTATCATAAACCCAGACTGGGGATGGGCTGA  
CCCTGGGTGCTGGCCTCAGCCTGGACCAGGTGAAGGACATTCTACTGACGTGGTCCAGAAGCTTCCAGA  
AGAGACGACACAGACATACCGTGCCTCCTGAAGCACCTGAGAACTCTGGCTGGCTCAGATCAGGAAT  
ATGGCTTCTTTAGGGGGCCACATCGTGAGCAGACATCTGGACTCGGATCTGAATCCCCTTCTGGCTGTGG  
GTAATTGTACCCTCAACTACTATCCAAGATGGAAAACGGCAGATCCCTTTAAGTGAGCAGTTTCTCCG  
CAAGTGTCTGACTCGGATCTTAAGCCTCAGGAAGTCTTGGTCTCAGTGAACATCCCCTGTTCCAGGAAG  
TGGGAGTTTGTGTCAGCCTTCCGACAAGCCAGAGACAGCAGAATGCACTAGCGATTGTCAACTCTGGAA  
TGAGAGTCCTTTTAGAGAAGGAGGTGGCGTCATTAAGAGTTATCCATTTTGTATGGAGGTGTCGGTCC  
AACCCACATCGGTGCCAAGAACTCCTGTGAGAACTCATTGGAAGGCCCTGGAATGAAGAGATGCTGGAC  
ACAGCATGCAAGGCTGGTTTTGGATGAAGTACCCTTGCAGGTTACAGTCTGCTGGTGGGAAGGTGGAGTTCA  
AGAGGACCCTCATCATCAGTTCCTTTTCAAGTTCTACCTGGAGGTGCTGCAGGGTCTGAAGAGGGAGGA  
CCCAGGTCATCTAGCTTGACAAACAATTATGAGAGTGCTTTAGAAGATCTCCATTCAAAACATCAC



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TGGAGAACATTAACCCACCAGAACGTGGATTTCGATGCAGCTTCCTCAGGACCCAATTGGCCGTCCCATCA  
 TGCACCTTTCTGGTATTAAGCACGCTACCGGCGAGGCCATCTACTGTGACGACATGCCTGCAGTAGACCG  
 GGAGCTTTTCTGACTTTTGTAAACAAGTTCAAGAGCACACGCTAAGATTGTGCCATTGATCTGTCAGAA  
 GCTCTCAGCCTGCCAGGCGTGGTGGACATCATTACTGCGGATCATCTTCAGGACACAACCACCTTCGGCA  
 CAGAGACGCTTCTGGCCACAGATAAAGTCCACTGCGTGGGCCAACTTGTCTGTGCCGTGATTGCGGATTC  
 TGAGACACGGGCAAGCAAGCGGCGAAGCACGTGAAGTGGTCTACCGAGACTTGGAGCCTCTGATCCTA  
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 CAGTTCCCCAAGCATATACAGGATATAGTTGTGCAACCTTGAAGCTTTCAGTCAACAAGGTCATGTGTC  
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 GGGGGCCCATCCTTACCTTGGAAAGTATAAAGTTGGATTTCATGAGGGACGGCAGAATCGTGGCCCTGG  
 ATGTGGAGCACTATTGCAATGGAGGGAGCTCCCTGGATGAGTCTTATGGGTGATAGAAATGGGGCTTCT  
 GAAGATGGACAACGCTTACAAGTTTCCCAATCTACGCTGCCGGGCTGGGCTGCAGAACCAACCTCCCG  
 TCCACACTGCTCTGCGTGGGTTTGGCTTTCCTCAGGCAGGGCTGGTCACCGAAGCTGTGTACAGAAAG  
 TGGCAATCAGATGTGGCCTGTCTCTGAGCAGGTTCAACCAATAATATGTACAAGCAAATTGATAATAC  
 CCATTACAAGCAAGAATTCAGCGCAAGACCCTCTTGTAGTGTGGAGAGAATGCATGGCCAAGTGTTC  
 TACTCTGAGAGGAAAACGGCTGTAGGAAAATTCATGCAGAGAATTCCTGGAAAGAAGAGGGGAATGGCCG  
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 TTATCTTGATGGCTCTGCACTGGTCTCTCACGGTGGGATTGAGATGGGGCAGGGTGTCCACACTAAAATG  
 ATCCAGGTGGTCAGCCGGAATTAAGATGCCAATGTCGAGTGTCCACCTGCGTGGGACAAGCACAGAAA  
 CCGTCCCAACACCAATGCATCTGGAGGCTCTGTGGTGGCAGATCTCAATGGATTGGCAGTAAAGGATGC  
 TTGCCAGACCCTTCTAAAACGCCTTGAAGCCATCATCAGCAAGAACCCCAAGGAACTTGGAAAGGATTGG  
 GCCAGACTGCTTTTGAACAGAGCGTCAGTCTCTCGGCTGTTGGATATTTCAAGGGCTACGAGTCAATA  
 TAAACTGGGAGAAAGGGGAAGGCCATCCCTTCAATACTTTGTGTATGGAGCTGCCTGCTCAGAGTTGA  
 AATAGACTGCCTGACCGGGGACCATAAGAATATCAGAACAGACATCGTGATGGATGTTGGCCACAGCATA  
 AACCCAGCCCTTGACATAGGCCAGGTTGAAGGTGCATTTATTCAAGGAATGGGACTTTACACGATAGAGG  
 AGCTGAGTACTCTCCTCAGGGCATTCTGTACAGTCGTGGTCCAAACCAGTACAAGATCCCTGCCATCTG  
 CGACATCCCACCGAGATGCACATTTCTTTTTGCCCCATCCGAACACTCAAACACCCTGTATTCTCT  
 AAGGGTCTGGGAGAGTCTGGGGTGTTCCTGGGCTGTTCCGTATTTCTTCCATCCATGACGCAGTGAGGG  
 CAGCGCGGAGAGAGAGGCATCTCTGGACCATGGAAGCTCACTAGTCTCTGACTCCAGAGAAAATCAG  
 AATGGCTGTGAAGATAAGTTCAGAAAAATGATCCAAGAGATGAACCTGGATCCTATGTTCCCTGGAAC  
 ATACCTGTGTGA

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT  
 ACAAGGATGACGACGATAAGGTTTAA

- Restriction Sites:** Sgfl-Mlul
- ACCN:** NM\_019363
- Insert Size:** 4002 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).
- 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\\_019363.3](#), [NP\\_062236.2](#)

**RefSeq Size:** 4303 bp

**RefSeq ORF:** 4002 bp

**Locus ID:** 54349

**UniProt ID:** [Q9Z0U5](#)

**Cytogenetics:** 9q31

**Gene Summary:** Oxidase with broad substrate specificity, oxidizing aromatic azaheterocycles, such as N1-methylnicotinamide, N-methylphthalazinium and phthalazine, as well as aldehydes, such as benzaldehyde, retinal, pyridoxal, and vanillin. Plays a role in the metabolism of xenobiotics and drugs containing aromatic azaheterocyclic substituents. Participates in the bioactivation of prodrugs such as famciclovir, catalyzing the oxidation step from 6-deoxypenciclovir to penciclovir, which is a potent antiviral agent. Is probably involved in the regulation of reactive oxygen species homeostasis. Is a prominent source of superoxide generation via the one-electron reduction of molecular oxygen. Also catalyzes nitric oxide (NO) production; under anaerobic conditions, reduces nitrite to NO with NADH or aldehyde as electron donor, but under aerobic conditions, NADH is the preferred substrate. These reactions may be catalyzed by several isozymes. May play a role in adipogenesis.[UniProtKB/Swiss-Prot Function]