

**ALOX15 / 15-Lipoxygenase Antibody (clone 3D8)**  
**Mouse Monoclonal Antibody**  
**Catalog # ALS13271****Specification****ALOX15 / 15-Lipoxygenase Antibody (clone 3D8) - Product Information**

Application	WB, IHC
Primary Accession	<a href="#">P16050</a>
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Calculated MW	75kDa KDa

**ALOX15 / 15-Lipoxygenase Antibody (clone 3D8) - Additional Information****Gene ID** 246**Other Names**

Arachidonate 15-lipoxygenase, 15-LOX, 15-LOX-1, 1.13.11.33, 12/15-lipoxygenase, Arachidonate 12-lipoxygenase, leukocyte-type, 12-LOX, 1.13.11.31, Arachidonate omega-6 lipoxygenase, ALOX15, LOG15

**Reconstitution & Storage**

Store at -20°C. Aliquot to avoid freeze/thaw cycles.

**Precautions**

ALOX15 / 15-Lipoxygenase Antibody (clone 3D8) is for research use only and not for use in diagnostic or therapeutic procedures.

**ALOX15 / 15-Lipoxygenase Antibody (clone 3D8) - Protein Information****Name** ALOX15 ([HGNC:433](#))**Synonyms** LOG15**Function**

Non-heme iron-containing dioxygenase that catalyzes the stereo-specific peroxidation of free and esterified polyunsaturated fatty acids generating a spectrum of bioactive lipid mediators (PubMed: [1944593](http://www.uniprot.org/citations/1944593), PubMed: [8334154](http://www.uniprot.org/citations/8334154), PubMed: [17052953](http://www.uniprot.org/citations/17052953), PubMed: [24282679](http://www.uniprot.org/citations/24282679), PubMed: [25293588](http://www.uniprot.org/citations/25293588), PubMed: [32404334](http://www.uniprot.org/citations/32404334)). It inserts peroxy groups at C12 or C15 of arachidonate ((5Z,8Z,11Z,14Z)-eicosatetraenoate) producing both 12-hydroperoxyeicosatetraenoate/12-HPETE and 15-hydroperoxyeicosatetraenoate/15-HPETE (PubMed: [1944593](http://www.uniprot.org/citations/1944593), PubMed: [1944593](http://www.uniprot.org/citations/1944593)).

[8334154](http://www.uniprot.org/citations/8334154), PubMed: [17052953](http://www.uniprot.org/citations/17052953), PubMed: [24282679](http://www.uniprot.org/citations/24282679)). It may then act on 12-HPETE to produce hepxilins, which may show pro-inflammatory properties (By similarity). Can also peroxidize linoleate ((9Z,12Z)-octadecadienoate) to 13-hydroperoxyoctadecadienoate/13-HPODE (PubMed: [8334154](http://www.uniprot.org/citations/8334154)). May participate in the sequential oxidations of DHA ((4Z,7Z,10Z,13Z,16Z,19Z)-docosaheptaenoate) to generate specialized pro- resolving mediators (SPMs) like resolvin D5 ((7S,17S)-diHDPHA) and (7S,14S)-diHDPHA, that actively down-regulate the immune response and have anti-aggregation properties with platelets (PubMed: [32404334](http://www.uniprot.org/citations/32404334)). Can convert epoxy fatty acids to hydroperoxy-epoxides derivatives followed by an intramolecular nucleophilic substitution leading to the formation of monocyclic endoperoxides (PubMed: [25293588](http://www.uniprot.org/citations/25293588)). Plays an important role during the maintenance of self-tolerance by peroxidizing membrane-bound phosphatidylethanolamine which can then signal the sorting process for clearance of apoptotic cells during inflammation and prevent an autoimmune response. In addition to its role in the immune and inflammatory responses, this enzyme may play a role in epithelial wound healing in the cornea through production of lipoxin A4 (LXA(4)) and docosaheptaenoic acid-derived neuroprotectin D1 (NPD1; 10R,17S-HDHA), both lipid autacoids exhibit anti-inflammatory and neuroprotective properties. Furthermore, it may regulate actin polymerization which is crucial for several biological processes such as the phagocytosis of apoptotic cells. It is also implicated in the generation of endogenous ligands for peroxisome proliferator activated receptor (PPAR-gamma), hence modulating macrophage development and function. It may also exert a negative effect on skeletal development by regulating bone mass through this pathway. As well as participates in ER stress and downstream inflammation in adipocytes, pancreatic islets, and liver (By similarity). Finally, it is also involved in the cellular response to IL13/interleukin-13 (PubMed: [21831839](http://www.uniprot.org/citations/21831839)).

#### Cellular Location

Cytoplasm, cytosol. Cell membrane; Peripheral membrane protein. Lipid droplet.  
Note=Predominantly cytosolic; becomes enriched at membranes upon calcium binding (By similarity) Translocates from the cytosol to the plasma membrane when stimulated by IL13/interleukin-13 and in macrophages binding apoptotic cells (By similarity).  
{ECO:0000250|UniProtKB:P39654}

#### Tissue Location

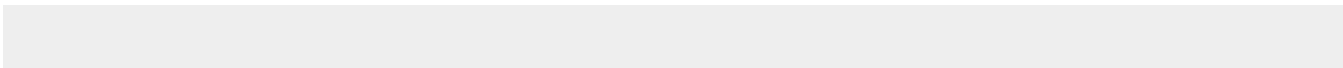
Detected in monocytes and eosinophils (at protein level). Expressed in airway epithelial cells

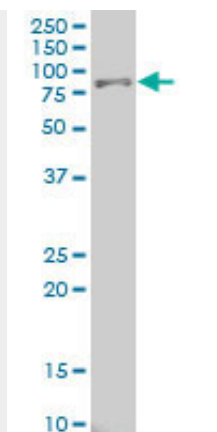
### ALOX15 / 15-Lipoxygenase Antibody (clone 3D8) - Protocols

Provided below are standard protocols that you may find useful for product applications.

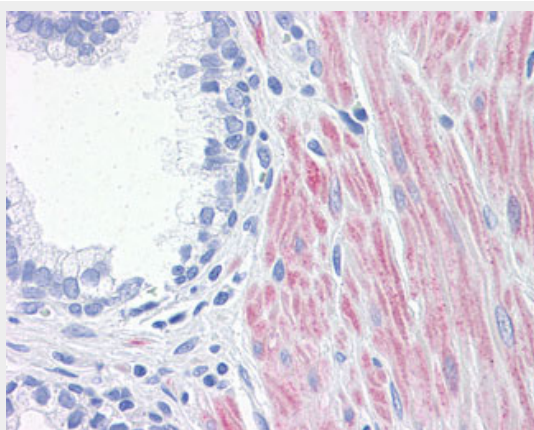
- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

### ALOX15 / 15-Lipoxygenase Antibody (clone 3D8) - Images





ALOX15 monoclonal antibody, clone 3D8 Western blot of ALOX15 expression in HeLa NE.



Anti-ALOX15 / 15 Lipoxigenase 1 antibody IHC of human prostate.

#### **ALOX15 / 15-Lipoxygenase Antibody (clone 3D8) - Background**

Non-heme iron-containing dioxygenase that catalyzes the stereo-specific peroxidation of free and esterified polyunsaturated fatty acids generating a spectrum of bioactive lipid mediators. Converts arachidonic acid into 12- hydroperoxyeicosatetraenoic acid/12-HPETE and 15- hydroperoxyeicosatetraenoic acid/15-HPETE. Also converts linoleic acid to 13-hydroperoxyoctadecadienoic acid. May also act on (12S)- hydroperoxyeicosatetraenoic acid/(12S)-HPETE to produce hepoxilin A3. Probably plays an important role in the immune and inflammatory responses. Through the oxygenation of membrane-bound phosphatidylethanolamine in macrophages may favor clearance of apoptotic cells during inflammation by resident macrophages and prevent an autoimmune response associated with the clearance of apoptotic cells by inflammatory monocytes. In parallel, may regulate actin polymerization which is crucial for several biological processes, including macrophage function. May also regulate macrophage function through regulation of the peroxisome proliferator activated receptor signaling pathway. Finally, it is also involved in the cellular response to IL13/interleukin-13. In addition to its role in the immune and inflammatory responses, may play a role in epithelial wound healing in the cornea maybe through production of lipoxin A4. May also play a role in endoplasmic reticulum stress response and the regulation of bone mass.

#### **ALOX15 / 15-Lipoxygenase Antibody (clone 3D8) - References**

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Ota T.,et al.Nat. Genet. 36:40-45(2004).  
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