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Anti-ALOX15 Picoband Antibody

Catalog # ABO11788

Product Information

Application	WB, IHC-P
Primary Accession	P16050
Host	Rabbit
Reactivity	Human
Clonality	Polyclonal
Format	Lyophilized
Description	Rabbit IgG polyclonal antibody for Arachidonate 15-lipoxygenase(ALOX15) detection. Tested with WB, IHC-P in Human.
Reconstitution	Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

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
Calculated MW	74804
Application Details	Immunohistochemistry(Paraffin-embedded Section), 0.5-1 □g/ml, Human, By Heat Western blot, 0.1-0.5 □g/ml, Human
Subcellular Localization	Cytoplasm, cytosol. Cell membrane; Peripheral membrane protein. Lipid droplet. Predominantly cytosolic; becomes enriched at membranes upon calcium binding. Translocates from the cytosol to the plasma membrane when stimulated by IL13/interleukin-13 and in macrophages binding apoptotic cells.
Tissue Specificity	Detected in monocytes and eosinophils (at protein level). Expressed in airway epithelial cells. .
Source	Eukaryota
Protein Name	Arachidonate 15-lipoxygenase
Contents	Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na2HPO4, 0.05mg NaN3.
Immunogen	E.coli-derived human ALOX15 recombinant protein (Position: G2-P337). Human ALOX15 shares 72% and 73% amino acid (aa) sequences identity with mouse and rat ALOX15, respectively.

Purification	Immunogen affinity purified.
Cross Reactivity	No cross reactivity with other proteins
Storage	At -20˚C for one year. After r˚Constitution, at 4˚C for one month. It˚Can also be aliquotted and stored frozen at -20˚C for a longer time.Avoid repeated freezing and thawing.
Sequence Similarities	Belongs to the lipoxygenase family.

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:17052953, PubMed:1944593, PubMed:24282679, PubMed:25293588, PubMed:32404334, PubMed:8334154). It inserts peroxyl groups at C12 or C15 of arachidonate ((5Z,8Z,11Z,14Z)-eicosatetraenoate) producing both 12-hydroperoxyeicosatetraenoate/12-HPETE and 15-hydroperoxyeicosatetraenoate/15-HPETE (PubMed:17052953, PubMed:1944593, PubMed:24282679, PubMed:8334154). It may then act on 12-HPETE to produce hepoxilins, which may show pro-inflammatory properties (By similarity). Can also peroxidize linoleate ((9Z,12Z)-octadecadienoate) to 13-hydroperoxyoctadecadienoate/13-HPODE (PubMed:8334154). May participate in the sequential oxidations of DHA ((4Z,7Z,10Z,13Z,16Z,19Z)-docosahexaenoate) to generate specialized pro-resolving mediators (SPMs)like resolvin D5 ((7S,17S)-diHPDHA) and (7S,14S)-diHPDHA, that actively down-regulate the immune response and have anti-aggregation properties with platelets (PubMed: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). 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 docosahexaenoic 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).
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).

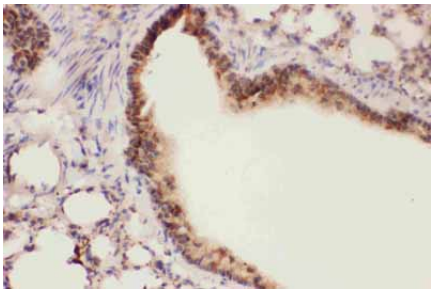
{ECO:0000250|UniProtKB:P39654}

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

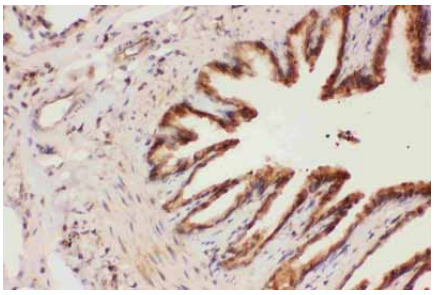
Background

Arachidonate 15-lipoxygenase, also known as 15 LOX or LOG15, is an enzyme that in humans is encoded by the ALOX15 gene. This gene is mapped to 17p13.2. It is found that ALOX15 is a mutator gene. ALOX15 gene product is implicated in antiinflammation, membrane remodeling, and cancer development/metastasis. Loss of the TP53 gene, or gain-of-function activities resulting from the expression of its mutant forms regulates ALOX15 promoter activity in human and in mouse, albeit in directionally opposite manners.

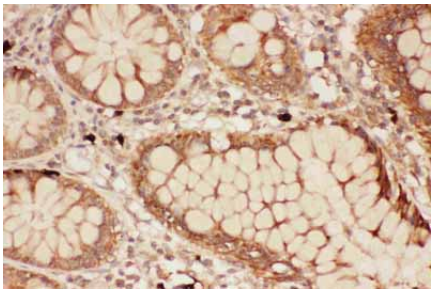
Images



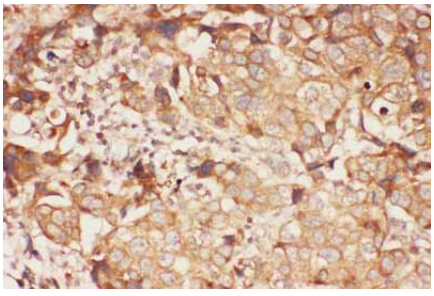
Anti-ALOX15 Picoband antibody, ABO11788-1.JPGIHC(P): Mouse Lung Tissue



Anti-ALOX15 Picoband antibody, ABO11788-2.JPGIHC(P): Rat Lung Tissue



Anti-ALOX15 Picoband antibody, ABO11788-3.JPGIHC(P): Human Intestine Cancer Tissue



Anti-ALOX15 Picoband antibody, ABO11788-4.JPGIHC(P): Human Mammary Cancer Tissue

Anti-ALOX15 Picoband antibody, ABO11788-5.jpgAll lanes: Anti-ALOX15(ABO11788) at 0.5ug/mWB: Recombinant Human ALOX15 Protein 0.5ngPredicted bind size:



39KDObserved bind size: 39KD

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