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ALOX15 Antibody (C-term)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP7896B

Product Information

Application	WB, IHC-P, IF, E
Primary Accession	P16050
Reactivity	Human, Rat, Mouse
Predicted	Bovine, Canine
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	74804
Antigen Region	610-643

Additional Information

Gene ID	246
Other Names	Arachidonate 15-lipoxygenase, 15-LOX, 15-LOX-1, 12/15-lipoxygenase, Arachidonate 12-lipoxygenase, leukocyte-type, 12-LOX, Arachidonate omega-6 lipoxygenase, ALOX15, LOG15
Target/Specificity	This ALOX15 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 610-643 amino acids from the C-terminal region of human ALOX15.
Dilution	WB~~1:1000 IHC-P~~1:100~500 IF~~1:10~50 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	ALOX15 Antibody (C-term) is for research use only and not for use in diagnostic or therapeutic procedures.

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

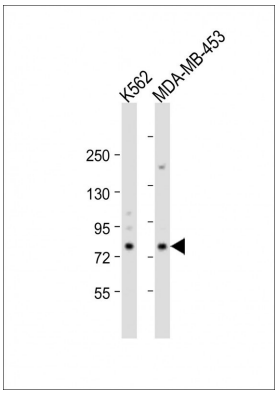
Background

ALOX15 converts arachidonic acid to 15S-hydroperoxyeicosatetraenoic acid. The protein also acts on C-12 of arachidonate as well as on linoleic acid.

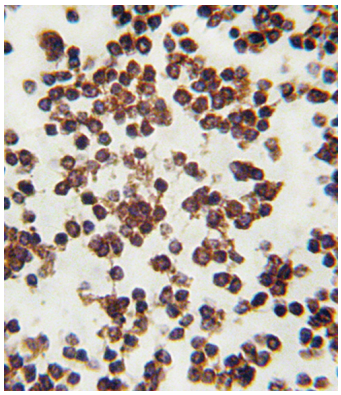
References

Tang,Y., Int. J. Cancer 124 (7), 1545-1551 (2009)
Bevan,S., Stroke 40 (3), 696-701 (2009)
Zuo,X., J. Biol. Chem. 283 (46), 31341-31347 (2008)

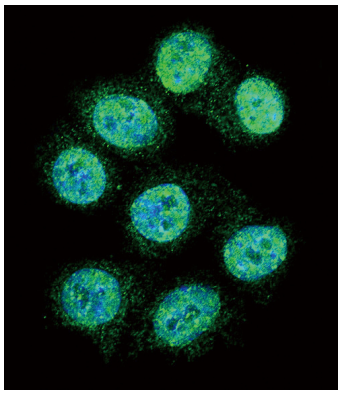
Images



All lanes : Anti-ALOX15 Antibody (C-term) at 1:2000 dilution Lane 1: K562 whole cell lysate Lane 2: MDA-MB-453 whole cell lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 75 kDa Blocking/Dilution buffer: 5% NFDM/TBST.



Formalin-fixed and paraffin-embedded human lymph tissue reacted with ALOX15 antibody (C-term), which was peroxidase-conjugated to the secondary antibody, followed by DAB staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated.



Confocal immunofluorescent analysis of ALOX15 Antibody (C-term)(Cat#AP7896b) with hela cell followed by Alexa Fluor 488-conjugated goat anti-rabbit lgG (green). DAPI was used to stain the cell nuclear (blue).

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.