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ALOX15 Antibody (C-term) Blocking Peptide
Synthetic peptide
Catalog # BP7896b

Specification

ALOX15 Antibody (C-term) Blocking Peptide - Product Information

Primary Accession P16050

ALOX15 Antibody (C-term) Blocking Peptide - 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
The synthetic peptide sequence used to generate the antibody AP7896b was selected from the C-term region of human ALOX15. A 10 to 100 fold molar excess to antibody is recommended. Precise conditions should be optimized for a particular assay.

Format
Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions
This product is for research use only. Not for use in diagnostic or therapeutic procedures.

ALOX15 Antibody (C-term) Blocking Peptide - 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

ALOX15 Antibody (C-term) Blocking Peptide - Protocols

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

- Blocking Peptides

ALOX15 Antibody (C-term) Blocking Peptide - Images

ALOX15 Antibody (C-term) Blocking Peptide - Background

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

ALOX15 Antibody (C-term) Blocking Peptide - 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)