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ALOX5 / 5-Lipoxygenase Antibody (aa246-295)
Rabbit Polyclonal Antibody
Catalog # ALS15411

Specification

ALOX5 / 5-Lipoxygenase Antibody (aa246-295) - Product Information

Application	**WB, IHC-P, E**
Primary Accession	P09917
Reactivity	**Human, Mouse, Rat**
Host	**Rabbit**
Clonality	**Polyclonal**
Calculated MW	**78kDa KDa**
Dilution	**WB~~1:1000** **IHC-P~~N/A** **E~~N/A**

ALOX5 / 5-Lipoxygenase Antibody (aa246-295) - Additional Information

Gene ID 240

Other Names
Arachidonate 5-lipoxygenase, 5-LO, 5-lipoxygenase, 1.13.11.34, ALOX5, LOG5

Target/Specificity
Arachidonate 5 Lipoxygenase (Ab-271) Antibody detects endogenous levels of total Arachidonate 5 Lipoxygenase protein.

Reconstitution & Storage
Store at -20°C for up to one year.

Precautions
ALOX5 / 5-Lipoxygenase Antibody (aa246-295) is for research use only and not for use in diagnostic or therapeutic procedures.

ALOX5 / 5-Lipoxygenase Antibody (aa246-295) - Protein Information

Name ALOX5 (HGNC:435)

Synonyms LOG5

Function
Catalyzes the oxygenation of arachidonate ((5Z,8Z,11Z,14Z)- eicosatetraenoate) to 5-hydroperoxyeicosatetraenoate (5-HPETE) followed by the dehydration to 5,6-epoxyeicosatetraenoate (Leukotriene A4/LTA4), the first two steps in the biosynthesis of leukotrienes, which are potent mediators of inflammation (PubMed:19022417, PubMed:21233389, PubMed:22516296, PubMed:<a

href="http://www.uniprot.org/citations/23246375" target="_blank">23246375, PubMed:24282679, PubMed:24893149, PubMed:31664810, PubMed:8615788, PubMed:8631361). Also catalyzes the oxygenation of arachidonate into 8- hydroperoxyicosatetraenoate (8-HPETE) and 12-hydroperoxyicosatetraenoate (12-HPETE) (PubMed:23246375). Displays lipoxin synthase activity being able to convert (15S)-HETE into a conjugate tetraene (PubMed:31664810). Although arachidonate is the preferred substrate, this enzyme can also metabolize oxidized fatty acids derived from arachidonate such as (15S)-HETE, eicosapentaenoate (EPA) such as (18R)- and (18S)-HEPE or docosahexaenoate (DHA) which lead to the formation of specialized pro-resolving mediators (SPM) lipoxin and resolvins E and D respectively, therefore it participates in anti-inflammatory responses (PubMed:17114001, PubMed:21206090, PubMed:31664810, PubMed:32404334, PubMed:8615788). Oxidation of DHA directly inhibits endothelial cell proliferation and sprouting angiogenesis via peroxisome proliferator-activated receptor gamma (PPARgamma) (By similarity). It does not catalyze the oxygenation of linoleic acid and does not convert (5S)-HETE to lipoxin isomers (PubMed:31664810). In addition to inflammatory processes, it participates in dendritic cell migration, wound healing through an antioxidant mechanism based on heme oxygenase-1 (HO-1) regulation expression, monocyte adhesion to the endothelium via ITGAM expression on monocytes (By similarity). Moreover, it helps establish an adaptive humoral immunity by regulating primary resting B cells and follicular helper T cells and participates in the CD40-induced production of reactive oxygen species (ROS) after CD40 ligation in B cells through interaction with PIK3R1 that bridges ALOX5 with CD40 (PubMed:21200133). May also play a role in glucose homeostasis, regulation of insulin secretion and palmitic acid-induced insulin resistance via AMPK (By similarity). Can regulate bone mineralization and fat cell differentiation increases in induced pluripotent stem cells (By similarity).

Cellular Location
Cytoplasm {ECO:0000250|UniProtKB:P48999, ECO:0000269|PubMed:18978352}. Nucleus matrix. Nucleus membrane; Peripheral membrane protein. Cytoplasm, perinuclear region. Cytoplasm, cytosol. Nucleus envelope. Nucleus intermembrane space. Note=Shuttles between cytoplasm and nucleus (PubMed:19233132). Found exclusively in the nucleus, when phosphorylated on Ser-272 (PubMed:18978352). Calcium binding promotes translocation from the cytosol and the nuclear matrix to the nuclear envelope and membrane association (PubMed:16275640, PubMed:19233132, PubMed:3118366, PubMed:8245774).

Volume
50 µl

ALOX5 / 5-Lipoxygenase Antibody (aa246-295) - Protocols

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

- Western Blot
- Blocking Peptides
- Dot Blot

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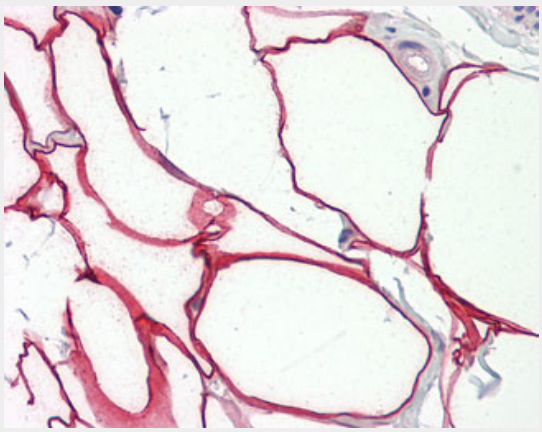
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

ALOX5 / 5-Lipoxygenase Antibody (aa246-295) - Images



Anti-ALOX5 / 5-Lipoxygenase antibody IHC of human colon, adipocytes.

ALOX5 / 5-Lipoxygenase Antibody (aa246-295) - Background

Catalyzes the first step in leukotriene biosynthesis, and thereby plays a role in inflammatory processes.

ALOX5 / 5-Lipoxygenase Antibody (aa246-295) - References

Dixon R.A.F.,et al.Proc. Natl. Acad. Sci. U.S.A. 85:416-420(1988).
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Boudreau L.H.,et al.FASEB J. 25:1097-1105(2011).