

## 5 Lipoxygenase Antibody

Rabbit mAb

Catalog # AP91682

### Specification

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#### 5 Lipoxygenase Antibody - Product Information

Application **WB, IHC, FC, ICC**

Primary Accession [P09917](#)

Reactivity **Rat**

Clonality **Monoclonal**

#### Other Names

ALOX5; 5-LO; 5-LOX; 5LPG; LOG5; MGC163204; LOX5; 5-lipoxygenase ; 5 Lipoxygenase; 5 LOX; ALOX 5;

Isotype **Rabbit IgG**

Host **Rabbit**

Calculated MW **77983 Da**

#### 5 Lipoxygenase Antibody - Additional Information

Purification **Affinity-chromatography**  
Immunogen **A synthesized peptide derived from human 5 Lipoxygenase**

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

Storage Condition and Buffer **Rabbit IgG in phosphate buffered saline , pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol. Store at +4°C short term. Store at -20°C long term. Avoid freeze / thaw cycle.**

#### 5 Lipoxygenase Antibody - 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](http://www.uniprot.org/citations/19022417), PubMed: [21233389](http://www.uniprot.org/citations/21233389), PubMed: [22516296](http://www.uniprot.org/citations/22516296), PubMed: [23246375](http://www.uniprot.org/citations/23246375), PubMed: [24282679](http://www.uniprot.org/citations/24282679), PubMed: [24893149](http://www.uniprot.org/citations/24893149), PubMed:

[31664810](http://www.uniprot.org/citations/31664810), PubMed: [8615788](http://www.uniprot.org/citations/8615788), PubMed: [8631361](http://www.uniprot.org/citations/8631361)). Also catalyzes the oxygenation of arachidonate into 8- hydroperoxyicosatetraenoate (8-HPETE) and 12- hydroperoxyicosatetraenoate (12-HPETE) (PubMed: [23246375](http://www.uniprot.org/citations/23246375)). Displays lipoxin synthase activity being able to convert (15S)-HETE into a conjugate tetraene (PubMed: [31664810](http://www.uniprot.org/citations/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](http://www.uniprot.org/citations/17114001)), PubMed: [21206090](http://www.uniprot.org/citations/21206090), PubMed: [31664810](http://www.uniprot.org/citations/31664810), PubMed: [32404334](http://www.uniprot.org/citations/32404334), PubMed: [8615788](http://www.uniprot.org/citations/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](http://www.uniprot.org/citations/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](http://www.uniprot.org/citations/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

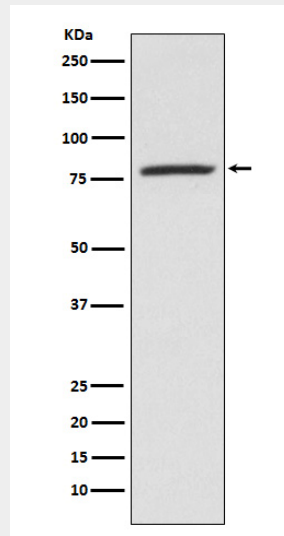
Cytoplasm {ECO:0000250|UniProtKB:P48999, ECO:0000269|PubMed:18978352}. Nucleus matrix. Nucleus membrane; Peripheral membrane protein. Cytoplasm, perinuclear region. Cytoplasm, cytosol. Nucleus envelope. Nucleus intermembrane space. Note=Shuttles between cytoplasm and nucleus (PubMed:19233132). Found 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).

## 5 Lipoxigenase Antibody - 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](#)

## 5 Lipoxigenase Antibody - Images



Western blot analysis of 5 Lipxygenase expression in K562 cell lysate.