

# 5 Lipoxygenase Rabbit mAb

Catalog # AP79012

## Product Information

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<b>Application</b>	WB, IHC-P, IHC-F, IF, FC, ICC
<b>Primary Accession</b>	<a href="#">P09917</a>
<b>Reactivity</b>	Rat, Human, Mouse
<b>Host</b>	Rabbit
<b>Clonality</b>	Monoclonal Antibody
<b>Isotype</b>	IgG
<b>Conjugate</b>	Unconjugated
<b>Immunogen</b>	A synthesized peptide derived from human 5 Lipoxygenase
<b>Purification</b>	Affinity Chromatography
<b>Calculated MW</b>	77983

## Additional Information

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<b>Gene ID</b>	240
<b>Other Names</b>	ALOX5
<b>Dilution</b>	WB~~1/500-1/1000 IHC-P~~N/A IHC-F~~N/A IF~~1:50~200 FC~~1:10~50 ICC~~N/A
<b>Format</b>	Liquid in 10mM PBS, pH 7.4, 150mM sodium chloride, 0.05% BSA, 0.02% sodium azide and 50% glycerol.
<b>Storage</b>	Store at 4°C short term. Aliquot and store at -20°C long term. Avoid freeze/thaw cycles.

## Protein Information

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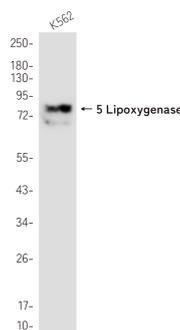
<b>Name</b>	ALOX5 ( <a href="#">HGNC:435</a> )
<b>Synonyms</b>	LOG5
<b>Function</b>	Catalyzes the oxygenation of arachidonate ((5Z,8Z,11Z,14Z)-eicosatetraenoate) to 5-hydroperoxyeicosatetraenoate (5-HPETE) followed by the dehydration to 5,6- epoxyeicosatetraenoate (Leukotriene A4/LTA4), the first two steps in the biosynthesis of leukotrienes, which are potent mediators of inflammation (PubMed: <a href="#">19022417</a> , PubMed: <a href="#">21233389</a> , PubMed: <a href="#">22516296</a> , PubMed: <a href="#">23246375</a> , PubMed: <a href="#">24282679</a> , PubMed: <a href="#">24893149</a> , PubMed: <a href="#">31664810</a> , PubMed: <a href="#">8615788</a> , PubMed: <a href="#">8631361</a> ). Also catalyzes the oxygenation of arachidonate into 8- hydroperoxyicosatetraenoate (8-HPETE) and 12- hydroperoxyicosatetraenoate (12-HPETE) (PubMed: <a href="#">23246375</a> ). Displays lipoxin synthase activity being able to convert (15S)-HETE into a conjugate tetraene (PubMed: <a href="#">31664810</a> ). 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:[32841762](#), 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).

## Images



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