

## Anti-5 Lipoxygenase ALOX5 Monoclonal Antibody Catalog # ABO14622

### Specification

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#### Anti-5 Lipoxygenase ALOX5 Monoclonal Antibody - Product Information

Application	WB, IHC, IF, ICC, FC
Primary Accession	<a href="#">P09917</a>
Host	Rabbit
Isotype	Rabbit IgG
Reactivity	Rat, Human, Mouse
Clonality	Monoclonal
Format	Liquid

#### Description

Anti-5 Lipoxygenase ALOX5 Monoclonal Antibody . Tested in WB, IHC, ICC/IF, Flow Cytometry applications. This antibody reacts with Human, Mouse, Rat.

#### Anti-5 Lipoxygenase ALOX5 Monoclonal Antibody - Additional Information

Gene ID 240

#### Other Names

Polyunsaturated fatty acid 5-lipoxygenase, 1.13.11.-, Arachidonate 5-lipoxygenase, 5-LO, 5-lipoxygenase, 1.13.11.34, ALOX5 ([HGNC:435](http://www.genenames.org/cgi-bin/gene_symbol_report?hgnc_id=435)), LOG5

#### Application Details

WB 1:500-1:2000<br>IHC 1:50-1:200<br>ICC/IF 1:50-1:200<br>FC 1:50

#### Contents

Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol, 0.4-0.5mg/ml BSA.

#### Immunogen

A synthesized peptide derived from human 5 Lipoxygenase

#### Purification

Affinity-chromatography

#### Storage

**Store at -20°C for one year. For short term storage and frequent use, store at 4°C for up to one month. Avoid repeated freeze-thaw cycles.**

#### Anti-5 Lipoxygenase ALOX5 Monoclonal 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:<a href="http://www.uniprot.org/citations/19022417" target="\_blank">19022417</a>, PubMed:<a href="http://www.uniprot.org/citations/21233389" target="\_blank">21233389</a>, PubMed:<a href="http://www.uniprot.org/citations/22516296" target="\_blank">22516296</a>, PubMed:<a href="http://www.uniprot.org/citations/23246375" target="\_blank">23246375</a>, PubMed:<a href="http://www.uniprot.org/citations/24282679" target="\_blank">24282679</a>, PubMed:<a href="http://www.uniprot.org/citations/24893149" target="\_blank">24893149</a>, PubMed:<a href="http://www.uniprot.org/citations/31664810" target="\_blank">31664810</a>, PubMed:<a href="http://www.uniprot.org/citations/8615788" target="\_blank">8615788</a>, PubMed:<a href="http://www.uniprot.org/citations/8631361" target="\_blank">8631361</a>). Also catalyzes the oxygenation of arachidonate into 8- hydroperoxyicosatetraenoate (8-HPETE) and 12-hydroperoxyicosatetraenoate (12-HPETE) (PubMed:<a href="http://www.uniprot.org/citations/23246375" target="\_blank">23246375</a>). Displays lipoxin synthase activity being able to convert (15S)-HETE into a conjugate tetraene (PubMed:<a href="http://www.uniprot.org/citations/31664810" target="\_blank">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:<a href="http://www.uniprot.org/citations/17114001" target="\_blank">17114001</a>, PubMed:<a href="http://www.uniprot.org/citations/21206090" target="\_blank">21206090</a>, PubMed:<a href="http://www.uniprot.org/citations/31664810" target="\_blank">31664810</a>, PubMed:<a href="http://www.uniprot.org/citations/32404334" target="\_blank">32404334</a>, PubMed:<a href="http://www.uniprot.org/citations/8615788" target="\_blank">8615788</a>). 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:<a href="http://www.uniprot.org/citations/31664810" target="\_blank">31664810</a>). 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:<a href="http://www.uniprot.org/citations/21200133" target="\_blank">21200133</a>). 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

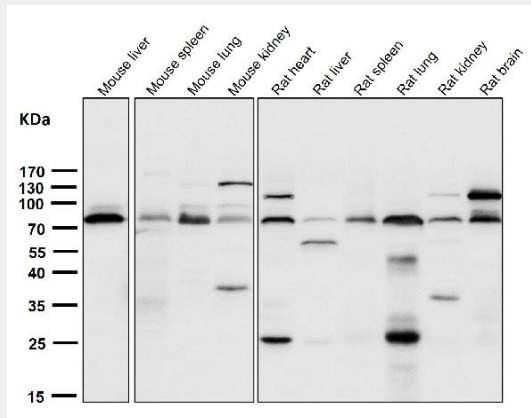
Cytoplasm {ECO:0000250|UniProtKB:P48999, ECO:0000269|PubMed:18978352}. Nucleus matrix. Nucleus membrane; Peripheral membrane protein. Cytoplasm, perinuclear region. Cytoplasm, cytosol. Nucleus envelope. Nucleus intermembrane space. Note=Shuttles between cytoplasm and nucleus (PubMed:19233132). Found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

## Anti-5 Lipoxygenase ALOX5 Monoclonal Antibody - Protocols

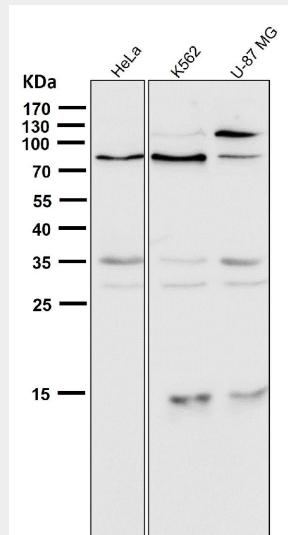
Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

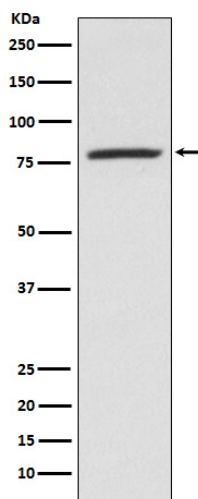
**Anti-5 Lipxygenase ALOX5 Monoclonal Antibody - Images**



All lanes use the Antibody at 1:1K dilution for 1 hour at room temperature.



All lanes use the Antibody at 1:1K dilution for 1 hour at room temperature.



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

#### **Anti-5 Lipxygenase ALOX5 Monoclonal Antibody - Background**

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