10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

ALOX12 Antibody (C-term)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP8877B

Product Information

Application	WB, IHC-P, IF, FC, E
Primary Accession	P18054
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB17150
Calculated MW	75694
Antigen Region	618-650

Additional Information

Gene ID	239
Other Names	Arachidonate 12-lipoxygenase, 12S-type, 12S-LOX, 12S-lipoxygenase, Lipoxin synthase 12-LO, 332-, Platelet-type lipoxygenase 12, ALOX12, 12LO, LOG12
Target/Specificity	This ALOX12 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 618-650 amino acids from the C-terminal region of human ALOX12.
Dilution	WB~~1:2000 IHC-P~~1:100~500 IF~~1:10~50 FC~~1:10~50 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	ALOX12 Antibody (C-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	ALOX12 (HGNC:429)
Synonyms	12LO, LOG12
Function	Catalyzes the regio and stereo-specific incorporation of molecular oxygen

into free and esterified polyunsaturated fatty acids generating lipid hydroperoxides that can be further reduced to the corresponding hydroxy species (PubMed:17493578, PubMed:18311922, PubMed:1851637, PubMed:32404334, PubMed:8319693, PubMed:8500694). Mainly converts arachidonate ((5Z,8Z,11Z,14Z)-eicosatetraenoate) to the specific bioactive lipid (12S)-hydroperoxyeicosatetraenoate/(12S)-HPETE (PubMed:17493578, PubMed:22984144, PubMed:24282679, PubMed:8319693, PubMed:8500694). Through the production of bioactive lipids like (12S)- HPETE it regulates different biological processes including platelet activation (PubMed:8319693, PubMed:8500694). It can also catalyze the epoxidation of double bonds of polyunsaturated fatty acids such as (14S)-hydroperoxy-docosahexaenoate/(14S)-HPDHA resulting in the formation of (13S,14S)-epoxy-DHA (PubMed:23504711). Furthermore, it 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). An additional function involves a multistep process by which it transforms leukotriene A4/LTA4 into the bioactive lipids lipoxin A4/LXA4 and lipoxin B4/LXB4, both are vasoactive and LXA4 may regulate neutrophil function via occupancy of specific recognition sites (PubMed:8250832). Can also peroxidize linoleate ((9Z,12Z)-octadecadienoate) to (13S)-hydroperoxyoctadecadienoate/ (13S-HPODE) (By similarity). Due to its role in regulating both the expression of the vascular endothelial growth factor (VEGF, an angiogenic factor involved in the survival and metastasis of solid tumors) and the expression of integrin beta-1 (known to affect tumor cell migration and proliferation), it can be regarded as protumorigenic (PubMed:16638750, PubMed:22237009, PubMed:9751607). Important for cell survival, as it may play a role not only in proliferation but also in the prevention of apoptosis in vascular smooth muscle cells (PubMed:23578768).

Cellular Location Cytoplasm, cytosol. Membrane. Note=Membrane association is stimulated by EGF

Tissue Location Expressed in vascular smooth muscle cells.

Background

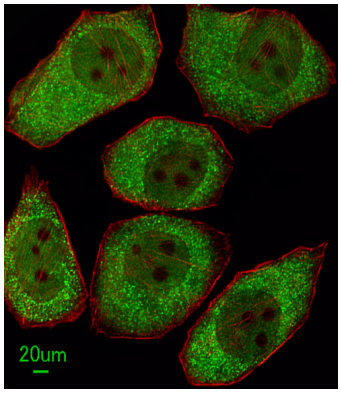
Oxygenase and 14,15-leukotriene A4 synthase activity.

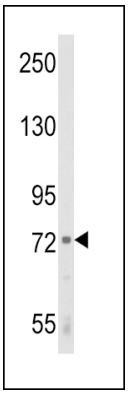
References

Yoshimoto,T., et.al., Biochem. Biophys. Res. Commun. 172 (3), 1230-1235 (1990)

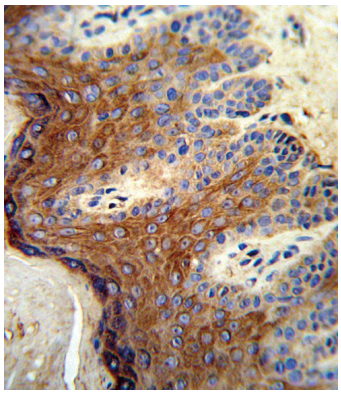
Images

Immunofluorescent analysis of A549 cells, using ALOX12 Antibody (C-term) (Cat. #AP8877b). AP8877b was diluted at 1 : 100 dilution. Alexa Fluor 488-conjugated goat anti-rabbit lgG at 1:400 dilution was used as the secondary antibody (green). Cytoplasmic actin was counterstained with Dylight Fluor® 554 (red) conjugated Phalloidin (red).

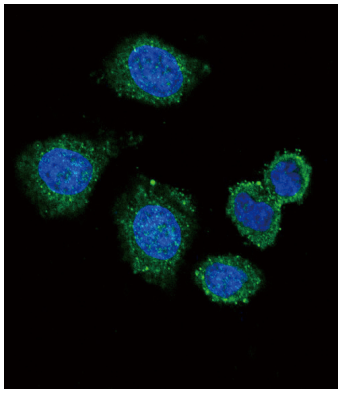




Western blot analysis of ALOX12 Antibody (C-term) (Cat. #AP8877b) in K562 cell line lysates (35ug/lane). ALOX12 (arrow) was detected using the purified Pab.

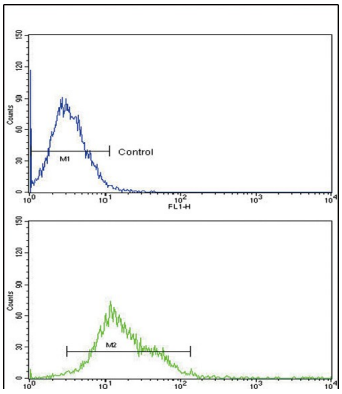


Formalin-fixed and paraffin-embedded human skin tissue reacted with ALOX12 Antibody (C-term), which was peroxidase-conjugated to the secondary antibody, followed by DAB staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated.



Confocal immunofluorescent analysis of ALOX12 Antibody (C-term) (Cat. #AP8877b) with 293 cell followed by Alexa Fluor寨?488-conjugated goat anti-rabbit lgG (green). DAPI was used to stain the cell nuclear (blue).

ALOX12 Antibody (C-term) (Cat. #AP8877b) flow cytometric analysis of k562 cells (bottom histogram) compared to a negative control cell (top histogram).FITC-conjugated goat-anti-rabbit secondary antibodies were used for the analysis.



Citations

- SBFI26 induces triple-negative breast cancer cells ferroptosis via lipid peroxidation
- Lipoxygenase-mediated generation of lipid peroxides enhances ferroptosis induced by erastin and RSL3.