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

ALOX12 Antibody (N-term) Blocking Peptide

Synthetic peptide
Catalog # BP8877a

Specification

ALOX12 Antibody (N-term) Blocking Peptide - Product Information

Primary Accession P18054

ALOX12 Antibody (N-term) Blocking Peptide - 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
The synthetic peptide sequence used to generate the antibody AP8877a was selected from the N-term region of human ALOX12. A 10 to 100 fold molar excess to antibody is recommended. Precise conditions should be optimized for a particular assay.

Format
Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions
This product is for research use only. Not for use in diagnostic or therapeutic procedures.

ALOX12 Antibody (N-term) Blocking Peptide - 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:1851637, PubMed:8319693, PubMed:8500694, PubMed:18311922, PubMed:32404334). 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:9751607, PubMed:16638750, PubMed:22237009). 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.

ALOX12 Antibody (N-term) Blocking Peptide - Protocols

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

- Blocking Peptides

ALOX12 Antibody (N-term) Blocking Peptide - Images

ALOX12 Antibody (N-term) Blocking Peptide - Background

Oxygenase and 14,15-leukotriene A4 synthase activity.

ALOX12 Antibody (N-term) Blocking Peptide - References

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