

**ALOXE3 Antibody (Center) Blocking Peptide**  
**Synthetic peptide**  
**Catalog # BP10450c****Specification**

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**ALOXE3 Antibody (Center) Blocking Peptide - Product Information**Primary Accession  
Other Accession[O9BYJ1](#)  
[NP\\_067641.2](#), [NP\\_001159432.1](#)**ALOXE3 Antibody (Center) Blocking Peptide - Additional Information****Gene ID** 59344**Other Names**

Hydroperoxide isomerase ALOXE3, Epidermis-type lipoxygenase 3, Epidermal LOX-3, e-LOX-3, eLOX-3, Hydroperoxy icosatetraenoate dehydratase, ALOXE3

**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.

**ALOXE3 Antibody (Center) Blocking Peptide - Protein Information****Name** ALOXE3 ([HGNC:13743](#))**Function**

Non-heme iron-containing lipoxygenase which is atypical in that it displays a prominent hydroperoxide isomerase activity and a reduced lipoxygenases activity (PubMed:<a href="http://www.uniprot.org/citations/12881489" target="\_blank">12881489</a>, PubMed:<a href="http://www.uniprot.org/citations/17045234" target="\_blank">17045234</a>, PubMed:<a href="http://www.uniprot.org/citations/20921226" target="\_blank">20921226</a>, PubMed:<a href="http://www.uniprot.org/citations/20923767" target="\_blank">20923767</a>). The hydroperoxide isomerase activity catalyzes the isomerization of hydroperoxides, derived from arachidonic and linoleic acid by ALOX12B, into hepoxilin-type epoxyalcohols and ketones (PubMed:<a href="http://www.uniprot.org/citations/12881489" target="\_blank">12881489</a>, PubMed:<a href="http://www.uniprot.org/citations/17045234" target="\_blank">17045234</a>, PubMed:<a href="http://www.uniprot.org/citations/20923767" target="\_blank">20923767</a>). In presence of oxygen, oxygenates polyunsaturated fatty acids, including arachidonic acid, to produce fatty acid hydroperoxides (PubMed:<a href="http://www.uniprot.org/citations/20921226" target="\_blank">20921226</a>). In the skin, acts downstream of ALOX12B on the linoleate moiety of esterified omega-hydroxyacyl-sphingosine (EOS) ceramides to produce an epoxy-ketone derivative, a crucial step in the conjugation of omega-hydroxyceramide to membrane proteins

(PubMed:<a href="http://www.uniprot.org/citations/21558561" target="\_blank">21558561</a>). Therefore plays a crucial role in the synthesis of corneocytes lipid envelope and the establishment of the skin barrier to water loss (PubMed:<a href="http://www.uniprot.org/citations/21558561" target="\_blank">21558561</a>). In parallel, it may have a signaling function in barrier formation through the production of hepoxilins metabolites (PubMed:<a href="http://www.uniprot.org/citations/21558561" target="\_blank">21558561</a>). Also plays a role in adipocyte differentiation through hepoxilin A3 and hepoxilin B3 production which in turn activate PPARG (By similarity). Through the production of hepoxilins in the spinal cord, it may regulate inflammatory tactile allodynia (By similarity).

#### **Cellular Location**

Cytoplasm {ECO:0000255|PROSITE-ProRule:PRU00726}.

#### **Tissue Location**

Predominantly expressed in skin.

### **ALOXE3 Antibody (Center) Blocking Peptide - Protocols**

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

- [Blocking Peptides](#)

### **ALOXE3 Antibody (Center) Blocking Peptide - Images**

### **ALOXE3 Antibody (Center) Blocking Peptide - Background**

ALOXE3 is a member of the lipoxygenase family, which are catabolized by arachidonic acid-derived compounds. The encoded enzyme is a hydroperoxide isomerase that synthesizes a unique type of epoxy alcohol (8R-hydroxy-11R,12R-epoxyeicosa-5Z,9E,14Z-trienoic acid) from 12R-hydroperoxyeicosatetraenoic acid (12R-HPETE). This epoxy alcohol can activate the nuclear receptor peroxisome proliferator-activated receptor alpha (PPARalpha), which is implicated in epidermal differentiation. Loss of function of the enzyme encoded by this gene results in ichthyosis, implicating the function of this gene in the differentiation of human skin.

### **ALOXE3 Antibody (Center) Blocking Peptide - References**

Han, S., et al. Hum. Immunol. 71(7):727-730(2010) Rajaraman, P., et al. Cancer Epidemiol. Biomarkers Prev. 19(5):1356-1361(2010) Vahlquist, A., et al. J. Invest. Dermatol. 130(2):438-443(2010) Rajaraman, P., et al. Cancer Epidemiol. Biomarkers Prev. 18(5):1651-1658(2009) Yu, Z., et al. Lipids 42(6):491-497(2007)