



# 5-LO (phospho Ser523) Polyclonal Antibody

<b>Catalog No</b>	YP-Ab-02398
<b>Isotype</b>	IgG
<b>Reactivity</b>	Human;Rat
<b>Applications</b>	WB;ELISA
<b>Gene Name</b>	ALOX5
<b>Protein Name</b>	Arachidonate 5-lipoxygenase
<b>Immunogen</b>	Synthesized phospho-peptide around the phosphorylation site of human 5-LO (phospho Ser523)
<b>Specificity</b>	Phospho-5-LO (S523) Polyclonal Antibody detects endogenous levels of 5-LO protein only when phosphorylated at S523.
<b>Formulation</b>	Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.02% sodium azide.
<b>Source</b>	Polyclonal, Rabbit,IgG
<b>Purification</b>	The antibody was affinity-purified from rabbit antiserum by affinity-chromatography using epitope-specific immunogen.
<b>Dilution</b>	Western Blot: 1/500 - 1/2000. ELISA: 1/10000. Not yet tested in other applications.
<b>Concentration</b>	1 mg/ml
<b>Purity</b>	≥90%
<b>Storage Stability</b>	-20°C/1 year
<b>Synonyms</b>	ALOX5; LOG5; Arachidonate 5-lipoxygenase; 5-LO; 5-lipoxygenase
<b>Observed Band</b>	77kD
<b>Cell Pathway</b>	Cytoplasm . Nucleus matrix . Nucleus membrane ; Peripheral membrane protein . Cytoplasm, perinuclear region . Cytoplasm, cytosol . Nucleus envelope . Nucleus intermembrane space . 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:19233132, PubMed:3118366, PubMed:8245774, PubMed:16275640). .
<b>Tissue Specificity</b>	Brain,Spleen,
<b>Function</b>	catalytic activity:Arachidonate + O(2) = leukotriene A(4) + H(2)O.,cofactor:Binds 1 iron ion per subunit.,cofactor:Binds 2 calcium ions per subunit.,function:Catalyzes the first step in leukotriene biosynthesis, and thereby plays a role in inflammatory processes.,pathway:Lipid metabolism; leukotriene A4 biosynthesis.,PTM:Serine phosphorylation by MAPKAPK2 is stimulated by arachidonic acid. Phosphorylation on Ser-523 by PKA has an inhibitory effect. Phosphorylation on Ser-272 prevents export from the nucleus.,similarity:Belongs to the lipoxygenase family.,similarity:Contains 1 lipoxygenase domain.,similarity:Contains 1 PLAT domain.,subcellular location:Shuttles between cytoplasm and nucleus. Found



exclusively in the nucleus, when phosphorylated on Ser-272. Calcium binding promotes translocation from the cytosol and the nuclear matrix to the nuclear envelope and membrane association.,subun

**Background**

This gene encodes a member of the lipoxygenase gene family and plays a dual role in the synthesis of leukotrienes from arachidonic acid. The encoded protein, which is expressed specifically in bone marrow-derived cells, catalyzes the conversion of arachidonic acid to 5(S)-hydroperoxy-6-trans-8,11,14-cis-eicosatetraenoic acid, and further to the allylic epoxide 5(S)-trans-7,9-trans-11,14-cis-eicosatetraenoic acid (leukotriene A4). Leukotrienes are important mediators of a number of inflammatory and allergic conditions. Mutations in the promoter region of this gene lead to a diminished response to antileukotriene drugs used in the treatment of asthma and may also be associated with atherosclerosis and several cancers. Alternatively spliced transcript variants encoding different isoforms have been found for this gene. [provided by RefSeq, Jan 2012],

**matters needing attention**

Avoid repeated freezing and thawing!

**Usage suggestions**

This product can be used in immunological reaction related experiments. For more information, please consult technical personnel.

## Products Images