

Product Information



5-Lipoxygenase (Phospho-Ser⁵²³) Polyclonal Antibody

Item No. 10007820

Synonym:	5-LO (Phospho-Ser ⁵²³) Polyclonal Antibody
Supplied as:	Affinity-purified IgG
Host:	Rabbit
Antigen:	Phosphopeptide corresponding to amino acid residues surrounding phospho-Ser ⁵²³ of human 5-lipoxygenase (5-LO).
Cross Reactivity:	(+) human, rat, and non-human primate 5-LO
Stability:	≥1 year at -20°C
Application:	The recommended starting dilution for western blot is 1:1,000. Other applications were not attempted and therefore optimal working dilutions should be determined empirically.

The enzyme 5-lipoxygenase (5-LO) plays a key role in regulating the production of leukotrienes (LTs).¹ Overproduction of LTs contributes to several diseases, most notably chronic inflammatory diseases such as asthma, fibrosis,² and atherosclerosis.³ Recent work has demonstrated that the activity of 5-LO is regulated by protein kinase A (PKA) phosphorylation of serine-523 in 5-LO.⁴ Under normal conditions, this phosphorylation may be important in limiting inflammation. Abnormal signaling through cAMP and PKA may therefore contribute to a variety of diseases, including those characterized by chronic inflammation. The phospho-specific antibody to Ser⁵²³ on 5-LO provides a valuable tool for studying the role of 5-LO regulation in diseases such as asthma, fibrosis, and atherosclerosis.

References

1. Funk, C.D. Prostaglandins and leukotrienes: Advances in eicosanoid biology. *Science* **294**, 1871-1875 (2001).
2. Wilborn, J., Bailie, M., Coffey, M., *et al.* Constitutive activation of 5-lipoxygenase in the lungs of patients with idiopathic pulmonary fibrosis. *J. Clin. Invest.* **97**, 1827-1836 (1996).
3. Dwyer, J.H., Allayee, H., Dwyer, K.M., *et al.* Arachidonate 5-lipoxygenase promoter genotype, dietary arachidonic acid, and atherosclerosis. *New England J. Med.* **350** 29-37 (2004).
4. Luo, M., Jones S.M., Phare, S.M., Coffey M.J., *et al.* Protein kinase A inhibits leukotriene synthesis by phosphorylation of 5-lipoxygenase on Serine 523. *J. Biol. Chem.* **279(40)** 41,512-41,520 (2004).

Related Products

p38 MAPK (Phospho-Thr¹⁸⁰/Tyr¹⁸²) Polyclonal Antibody - Item No. 10009177 • MEK 1/2 (Phospho-Ser^{218,222}) Polyclonal Antibody - Item No. 10009178 • ERK/MAPK (Phospho-Thr²⁰²/Thr²⁰⁴) Polyclonal Antibody - Item No. 10009179 • β-Catenin (Phospho-Ser^{33,37}) Polyclonal Antibody - Item No. 10009180 • CREB (Phospho-Ser¹³³) Polyclonal Antibody - Item No. 10009181

WARNING: THIS PRODUCT IS FOR LABORATORY RESEARCH ONLY; NOT FOR ADMINISTRATION TO HUMANS. NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

MATERIAL SAFETY DATA

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