

5-LO (H-120): sc-20785

BACKGROUND

5-lipoxygenase (5-LO) is expressed primarily in polymorphonuclear leukocytes, macrophages, and mast cells. 5-LO performs the first two catalytic reactions in the biosynthesis of leukotrienes, lipid metabolites that induce contractions of airway smooth muscle and increase vascular permeability during anaphylaxis. The cellular localization of 5-LO varies between cell types. In activated blood polymorphonuclear leukocytes 5-LO undergoes calcium dependent translocation from the cytosol to the nuclear envelope. In alveolar macrophages, the majority of 5-LO is localized in the nucleus and, upon activation of these cells, intranuclear 5-LO binds to the nuclear membrane. This intracellular shuttling of 5-LO is dependent on the association with various signaling molecules, phosphorylation and the presence of a distinct nuclear localization signal, which is encoded at the amino terminus of 5-LO.

REFERENCES

1. Matsumoto, T., et al. 1988. Molecular cloning and amino acid sequence of human 5-lipoxygenase. *Proc. Natl. Acad. Sci. USA* 85: 26-30.
2. Winkler, J.D., et al. 1993. Influence of arachidonic acid on indices of phospholipase A2 activity in the human neutrophil. *Biochem. J.* 291: 825-831.

CHROMOSOMAL LOCATION

Genetic locus: ALOX5 (human) mapping to 10q11.21; Alox5 (mouse) mapping to 6 E3.

SOURCE

5-LO (H-120) is a rabbit polyclonal antibody raised against amino acids 106-225 mapping near the N-terminus of 5-LO of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

5-LO (H-120) is recommended for detection of 5-LO of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

5-LO (H-120) is also recommended for detection of 5-LO in additional species, including canine, bovine and porcine.

Suitable for use as control antibody for 5-LO siRNA (h): sc-29596, 5-LO siRNA (m): sc-29597, 5-LO shRNA Plasmid (h): sc-29596-SH, 5-LO shRNA Plasmid (m): sc-29597-SH, 5-LO shRNA (h) Lentiviral Particles: sc-29596-V and 5-LO shRNA (m) Lentiviral Particles: sc-29597-V.

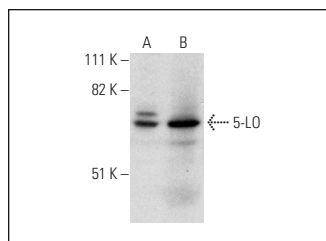
Molecular Weight of 5-LO: 78 kDa.

Positive Controls: P388D1 whole cell lysate or mouse spleen extract: sc-2391.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



5-LO (H-120): sc-20785. Western blot analysis of 5-LO expression in P388D1 whole cell lysate (A) and mouse spleen tissue extract (B).

SELECT PRODUCT CITATIONS

1. Whitney, L.W., et al. 2001. Microarray analysis of gene expression in multiple sclerosis and EAE identifies 5-lipoxygenase as a component of inflammatory lesions. *J. Neuroimmunol.* 121: 40-48.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.

MONOS
Satisfaction
Guaranteed

Try **5-LO (33): sc-136195**, our highly recommended monoclonal alternative to 5-LO (H-120).