

5-LO (N-19): sc-8885

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.

CHROMOSOMAL LOCATION

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

SOURCE

5-LO (N-19) is an affinity purified goat polyclonal antibody raised against a peptide 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.

Blocking peptide available for competition studies, sc-8885 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

5-LO (N-19) 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), immunohistochemistry (including paraffin-embedded sections) (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 (N-19) is also recommended for detection of 5-LO in additional species, including equine, 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.

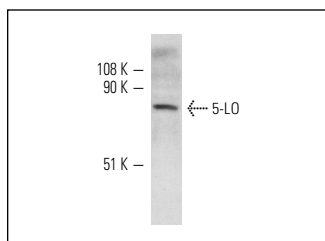
Molecular Weight of 5-LO: 78 kDa.

Positive Controls: MCP-5 whole cell lysate.

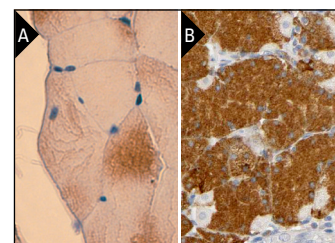
RESEARCH USE

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

DATA



5-LO (N-19): sc-8885. Western blot analysis of 5-LO expression in MCP-5 whole cell lysate.



5-LO (N-19): sc-8885. Immunoperoxidase staining of formalin fixed, paraffin-embedded mouse skeletal muscle tissue showing cytoplasmic localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human stomach tissue showing cytoplasmic staining of glandular cells. Kindly provided by The Swedish Human Protein Atlas (HPA) program (B).

SELECT PRODUCT CITATIONS

- Schuller, H.M., et al. 2002. The cyclooxygenase inhibitor ibuprofen and the FLAP inhibitor MK886 inhibit pancreatic carcinogenesis induced in hamsters by transplacental exposure to ethanol and the tobacco carcinogen NNK. *J. Cancer Res. Clin. Oncol.* 128: 525-532.
- Cianchi, F., et al. 2006. Inhibition of 5-lipoxygenase by MK886 augments the antitumor activity of celecoxib in human colon cancer cells. *Mol. Cancer Ther.* 5: 2716-2726.
- Lascelles, B.D., et al. 2009. Expression and activity of Cox-1 and 2 and 5-LOX in joint tissues from dogs with naturally occurring coxofemoral joint osteoarthritis. *J. Orthop. Res.* 27: 1204-1208.
- Hu, M., et al. 2009. Longitudinal changes of defensive and offensive factors in focal cerebral ischemia-reperfusion in rats. *Brain Res. Bull.* 79: 371-375.
- Andersson, C.K., et al. 2009. Novel site-specific mast cell subpopulations in the human lung. *Thorax* 64: 297-305.

PROTOCOLS

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



Try **5-LO (33): sc-136195**, our highly recommended monoclonal alternative to 5-LO (N-19).