

12-LO (H-100): sc-32939

BACKGROUND

Lipoxygenases are a family of enzymes which dioxygenate unsaturated fatty acids, thus initiating lipoperoxidation of membranes, the synthesis of signalling molecules as well as inducing structural and metabolic changes in the cell. The Lox enzymes in mammals, 12-LO and 15-LO, are classified with respect to their positional specificity of the deoxygenation of their most common substrate, arachidonic acid. The metabolism of arachidonic acid leads to the generation of biologically active metabolites that have been implicated in cell growth and proliferation, as well as survival and apoptosis. The 12-LO pathway is a regulator of cell survival and apoptosis and affects the expression and localization of the $\alpha v\beta 5$ integrin and actin microfilaments in rat Walker 256 carcinosarcoma cells. Platelet-type 12-LO regulates the growth and survival of a number of cancer cells. Human platelets metabolize arachidonic acid via 12-lipoxygenase to 12-hydroxyeicosatetraenoic acid.

REFERENCES

1. Fletcher-Cieutat, M., et al. 1985. Aspirin enhances the sensitivity of human platelet 12-lipoxygenase to inhibition by 15-HETE, an endogenous regulator. *Prostaglandins Leukot. Med.* 18: 255-259.
2. Pidgeon, G.P., et al. 2003. Overexpression of platelet-type 12-lipoxygenase promotes tumor cell survival by enhancing $\alpha v\beta 3$ and $\alpha v\beta 5$ integrin expression. *Cancer Res.* 63: 4258-4267.
3. Raso, E., et al. 2004. Molecular identification, localization and function of platelet-type 12-lipoxygenase in human melanoma progression, under experimental and clinical conditions. *Melanoma Res.* 14: 245-250.

CHROMOSOMAL LOCATION

Genetic locus: ALOX12 (human) mapping to 17p13.1; Alox12 (mouse) mapping to 11 B3.

SOURCE

12-LO (H-100) is a rabbit polyclonal antibody raised against amino acids 131-230 mapping within an internal region of 12-LO of human origin.

PRODUCT

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

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.

APPLICATIONS

12-LO (H-100) is recommended for detection of 12-LO of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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).

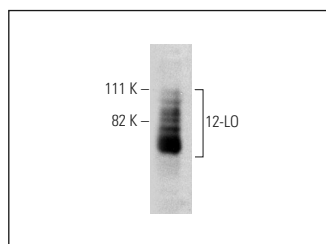
12-LO (H-100) is also recommended for detection of 12-LO in additional species, including equine and canine.

Suitable for use as control antibody for 12-LO siRNA (h): sc-45984, 12-LO siRNA (m): sc-45985, 12-LO shRNA Plasmid (h): sc-45984-SH, 12-LO shRNA Plasmid (m): sc-45985-SH, 12-LO shRNA (h) Lentiviral Particles: sc-45984-V and 12-LO shRNA (m) Lentiviral Particles: sc-45985-V.

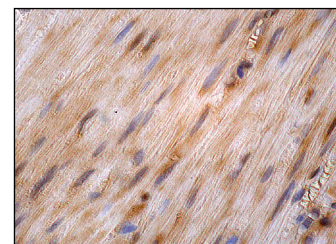
Molecular Weight of 12-LO: 76 kDa.

Positive Controls: human platelet whole cell lysate: sc-363773 or human platelet extract.

DATA



12-LO (H-100): sc-32939. Western blot analysis of 12-LO expression in human platelet extract.



12-LO (H-100): sc-32939. Immunoperoxidase staining of formalin fixed, paraffin-embedded human smooth muscle tissue showing cytoplasmic staining of smooth muscle cells.

SELECT PRODUCT CITATIONS

1. Guo, A.M., et al. 2011. Role of 12-lipoxygenase in regulation of ovarian cancer cell proliferation and survival. *Cancer Chemother. Pharmacol.* 68: 1273-1283.
2. Stavniichuk, R., et al. 2011. Baicalein alleviates diabetic peripheral neuropathy through inhibition of oxidative-nitrosative stress and p38 MAPK activation. *Exp. Neurol.* 230: 106-113.