

15-LO2 (H-55): sc-67142

BACKGROUND

Lipoxygenases are a family of enzymes which dioxygenate unsaturated fatty acids, thus initiating lipoperoxidation of membranes, the synthesis of signaling 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. 15-LO acts in physiological membrane remodeling and the pathogenesis of atherosclerosis, inflammation and carcinogenesis. It is highly regulated and expressed in a tissue- and cell-type-specific fashion. IL-4 and IL-13 play important roles in transactivating the 15-LO gene. Overexpression of 15-LO type 1 in prostate cancer contributes to the cancer progression by regulating IGF-1R expression and activation. 15-LO, type II (15-LO2) is important for the conversion of arachidonic acid to 15S-hydroperoxyeicosatetraenoic acid. It is a cytoplasmic protein expressed primarily in cornea, lung, hair and prostate.

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. Kilty, I., et al. 1999. Differential characteristics of human 15-LO isozymes and a novel splice variant of 15S-LO. *Eur. J. Biochem.* 266: 83-93.
3. Tang, S., et al. 2002. Evidence that arachidonate 15-LO2 is a negative cell cycle regulator in normal prostate epithelial cells. *J. Biol. Chem.* 277: 16189-16201
4. Pidgeon, G.P., et al. 2003. Overexpression of platelet-type 12-LO promotes tumor cell survival by enhancing $\alpha v \beta 3$ and $\alpha v \beta 5$ Integrin expression. *Cancer Res.* 63: 4258-4267.

CHROMOSOMAL LOCATION

Genetic locus: ALOX15B (human) mapping to 17p13.1.

SOURCE

15-LO2 (H-55) is a rabbit polyclonal antibody raised against amino acids 146-200 mapping within an internal region of 15-LO2 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.

APPLICATIONS

15-LO2 (H-55) is recommended for detection of 15-LO2 splice variants a, b, c and d of 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for 15-LO2 siRNA (h): sc-45626, 15-LO2 shRNA Plasmid (h): sc-45626-SH and 15-LO2 shRNA (h) Lentiviral Particles: sc-45626-V.

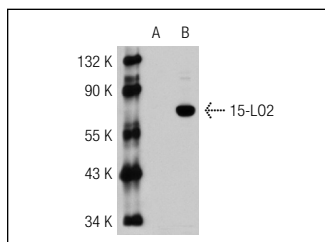
Molecular Weight of 15-LO2: 75 kDa.

Positive Controls: 15-LO2 (h): 293T Lysate: sc-113863 or HeLa whole cell lysate: sc-2200.

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



15-LO2 (H-55): sc-67142. Western blot analysis of 15-LO2 expression in non-transfected: sc-117752 (A) and human 15-LO2 transfected: sc-113863 (B) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. Pfister, S., et al. 2011. Mechanisms underlying increased reactivity of pulmonary arteries contralateral to a localized high-flow anastomosis. *J. Thorac. Cardiovasc. Surg.* 141: 425-431.

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Try **15-LO2 (D-9): sc-271290** or **15-LO2 (H-6): sc-166387**, our highly recommended monoclonal alternatives to 15-LO2 (H-55).