

# 15-LO2 (h): 293T Lysate: sc-113863

## 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-Lipoxygenase 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-lipoxygenase, 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. Lutteke, T., et al. 2003. LOX-DB—database on lipoxygenases. *Bioinformatics* 19: 2482-2483.
5. Pidgeon, G.P., et al. 2003. Overexpression of platelet-type 12-LO promotes tumor cell survival by enhancing Integrin  $\alpha$ V/ $\beta$ 3 and  $\alpha$ V/ $\beta$ 5 expression. *Cancer Res.* 63: 4258-4267.
6. Liu, C., et al. 2004. Transcriptional regulation of 15-LO expression by promoter methylation. *Exp. Cell Res.* 297: 61-67.
7. Kelavkar U.P., et al. 2004. 15-lipoxygenase-1 expression upregulates and activates Insulin-like growth factor-1 receptor in prostate cancer cells. *Neoplasia* 6: 41-52.
8. 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.

## STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.

## CHROMOSOMAL LOCATION

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

## PRODUCT

15-LO2 (h): 293T Lysate represents a lysate of human 15-LO2 transfected 293T cells and is provided as 100  $\mu$ g protein in 200  $\mu$ l SDS-PAGE buffer.

## APPLICATIONS

15-LO2 (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive 15-LO2 antibodies. Recommended use: 10-20  $\mu$ l per lane.

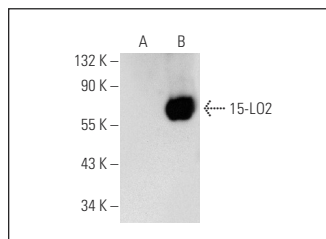
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

15-LO2 (H-6): sc-166387 is recommended as a positive control antibody for Western Blot analysis of enhanced human 15-LO2 expression in 15-LO2 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

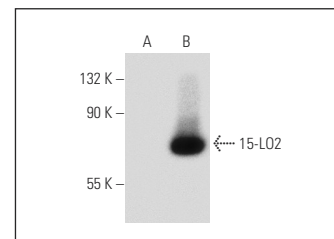
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended:  
1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048.

## DATA



15-LO2 (H-6): sc-166387. 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.



15-LO2 (D-9): sc-271290. 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.

## RESEARCH USE

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