

# Epidermis-type 12-LO (M-150): sc-98853

## BACKGROUND

Epidermis-type 12-LO, also known as arachidonate 12-lipoxygenase or 12R-lipoxygenase, belongs to the lipoxygenase family. Lipoxygenases are enzymes which dioxygenate unsaturated fatty acids, thus initiating lipoperoxidation of membranes, the synthesis of signaling molecules, and 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. Epidermis-type 12-LO converts arachidonic acid to 12R-hydroxyeicosatetraenoic acid. This pathway is a regulator of cell survival and apoptosis and affects the expression and localization of the Integrin  $\alpha$ V/ $\beta$ 5 and actin microfilaments in carcinoma cells.

## REFERENCES

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- Tang, K., et al. 2000. Identification of 12-lipoxygenase interaction with cellular proteins by yeast two-hybrid screening. *Biochemistry* 39: 3185-3191.
- Schneider, C., et al. 2001. Detection and cellular localization of 12R-lipoxygenase in human tonsils. *Arch. Biochem. Biophys.* 386: 268-274.
- Krieg, P., et al. 2001. A gene cluster encoding human epidermis-type lipoxygenases at chromosome 17p13.1: cloning, physical mapping, and expression. *Genomics* 73: 323-330.
- Jobard, F., et al. 2002. Lipoxygenase-3 (ALOXE3) and 12(R)-lipoxygenase (ALOX12B) are mutated in non-bullous congenital ichthyosiform erythroderma (NCIE) linked to chromosome 17p13.1. *Hum. Mol. Genet.* 11: 107-113.
- Yu, Z., et al. 2005. Mutations associated with a congenital form of ichthyosis (NCIE) inactivate the epidermal lipoxygenases 12R-LOX and eLOX3. *Biochim. Biophys. Acta* 3: 238-247.

## CHROMOSOMAL LOCATION

Genetic locus: ALOX12B (human) mapping to 17p13.1; Alox12b (mouse) mapping to 11 B3.

## SOURCE

Epidermis-type 12-LO (M-150) is a rabbit polyclonal antibody raised against amino acids 82-229 mapping near the N-terminus of Epidermis-type 12-LO of mouse origin.

## PRODUCT

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

## APPLICATIONS

Epidermis-type 12-LO (M-150) is recommended for detection of Epidermis-type 12-LO of mouse, rat and, to a lesser extent, human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ 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).

Epidermis-type 12-LO (M-150) is also recommended for detection of Epidermis-type 12-lipoxygenase in additional species, including canine.

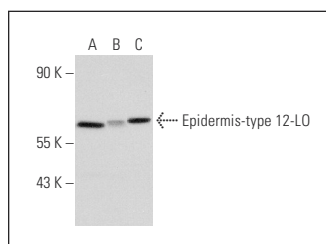
Suitable for use as control antibody for Epidermis-type 12-LO siRNA (h): sc-105333, Epidermis-type 12-LO siRNA (m): sc-144909, Epidermis-type 12-LO shRNA Plasmid (h): sc-105333-SH, Epidermis-type 12-LO shRNA Plasmid (m): sc-144909-SH, Epidermis-type 12-LO shRNA (h) Lentiviral Particles: sc-105333-V and Epidermis-type 12-LO shRNA (m) Lentiviral Particles: sc-144909-V.

Molecular Weight of Epidermis-type 12-LO: 80 kDa.

## 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



Epidermis-type 12-LO (M-150): sc-98853. Western blot analysis of Epidermis-type 12-LO expression in Jurkat (A), A549 (B) and A431 (C) whole cell lysates.

## 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.