

# Epidermis-type 12-LO (C-20): sc-27362

## 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 lipoxidation 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. 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

1. Boeglin, W.E., et al. 1998. A 12R-lipoxygenase in human skin: mechanistic evidence, molecular cloning, and expression. *Proc. Natl. Acad. Sci. USA* 95: 6744-6749.
2. Sun, D., et al. 1999. Human 12(R)-lipoxygenase and the mouse ortholog. Molecular cloning, expression, and gene chromosomal assignment. *J. Biol. Chem.* 273: 33540-33547.
3. Tang, K., et al. 2000. Identification of 12-lipoxygenase interaction with cellular proteins by yeast two-hybrid screening. *Biochemistry* 39: 3185-3191.
4. Schneider, C., et al. 2001. Detection and cellular localization of 12R-lipoxygenase in human tonsils. *Arch. Biochem. Biophys.* 386: 268-274.
5. 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.

## CHROMOSOMAL LOCATION

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

## SOURCE

Epidermis-type 12-LO (C-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of Epidermis-type 12-LO of human origin.

## PRODUCT

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

Blocking peptide available for competition studies, sc-27362 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## RESEARCH USE

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

## APPLICATIONS

Epidermis-type 12-LO (C-20) is recommended for detection of Epidermis-type 12-LO of mouse, rat and 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), 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).

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.

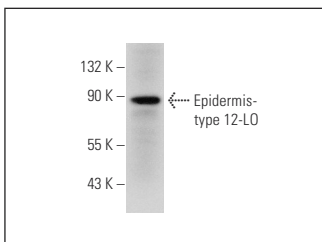
Molecular Weight of Epidermis-type 12-LO: 80 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210.

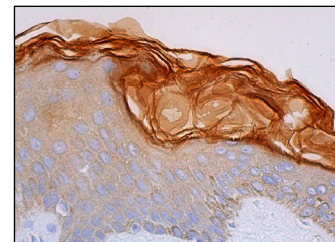
## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

## DATA



Epidermis-type 12-LO (C-20): sc-27362. Western blot analysis of Epidermis-type 12-LO expression in NIH/3T3 whole cell lysate.



Epidermis-type 12-LO (C-20): sc-27362. Immunoperoxidase staining of formalin fixed, paraffin-embedded human skin tissue showing stratum corneum staining.

## STORAGE

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