

# LOXHD1 (N-20): sc-85039

## 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 include 12-LO and 15-LO, which are classified with respect to their positional specificity of the deoxygenation of their most common substrate, arachidonic acid. The 12-LO pathway is a regulator of cell survival and apoptosis and also affects the expression and localization of the Integrin  $\alpha$ V/ $\beta$ 5 and actin microfilaments in rat Walker 256 carcinosarcoma cells. 15-LO acts in physiological membrane remodeling and the pathogenesis of atherosclerosis, inflammation, and carcinogenesis. Related to the LOX enzymes, LOXHD1 (lipoxygenase homology domain-containing protein 1) is a 1947 amino acid protein that contains 14 PLAT domains. There are five isoforms of LOXHD1 that are produced as a result of alternative splicing events.

## REFERENCES

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2. 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.
3. 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.
4. 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.
5. 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.
6. Jankun, J., et al. 2008. Do human lipoxygenases have a PDZ regulatory domain? *Curr. Mol. Med.* 8: 768-773.
7. Zuo, X., et al. 2008. 15-Lipoxygenase-1 transcriptional silencing by DNA methyltransferase-1 independently of DNA methylation. *FASEB J.* 22: 1981-1992.

## CHROMOSOMAL LOCATION

Genetic locus: LOXHD1 (human) mapping to 18q21.1.

## SOURCE

LOXHD1 (N-20) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping near the N-terminus of LOXHD1 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-85039 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

LOXHD1 (N-20) is recommended for detection of LOXHD1 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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); non cross-reactive with isoforms LOXHD1-3, LOXHD1-4 or LOXHD1-5.

LOXHD1 (N-20) is also recommended for detection of LOXHD1 in additional species, including canine, bovine and porcine.

Suitable for use as control antibody for LOXHD1 siRNA (h): sc-75687, LOXHD1 shRNA Plasmid (h): sc-75687-SH and LOXHD1 shRNA (h) Lentiviral Particles: sc-75687-V.

Molecular Weight (predicted) of LOXHD1 isoforms 1/2: 222/175 kDa.

Molecular Weight (predicted) of LOXHD1 isoforms 3/4/5: 127/53/59 kDa.

Molecular Weight (observed) of LOXHD1: 150 kDa.

Positive Controls: IMR-32 cell lysate: sc-2409, Jurkat whole cell lysate: sc-2204 or K-562 whole cell lysate: sc-2203.

## 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) 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.

## 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](http://www.scbt.com) or our catalog for detailed protocols and support products.