

Platelet-type 12-LO (C-20): sc-27359

BACKGROUND

Lipoxygenases are a family of enzymes which dioxygenate unsaturated fatty acids, thus initiating lipoperoxidation of membranes, the synthesis of signalling 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. The 12-LO 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 rat Walker 256 carcinosarcoma cells. Platelet-type 12-LO regulates the growth and survival of a number of cancer cells. Human platelets metabolize arachidonic acid via 12-lipoxygenase to 12-hydroxyeicosatetraenoic acid.

REFERENCES

1. Fletcher-Cieutat, M., Vanderhoek, J.Y., Bryant, R.W. and Bailey, J.M. 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. Pidgeon, G.P., Tang, K., Cai, Y.L., Piasentin, E. and Honn, K.V. 2003. Over-expression of platelet-type 12-lipoxygenase promotes tumor cell survival by enhancing $\alpha V/\beta 3$ and Integrin $\alpha V/\beta 5$ expression. *Cancer Res.* 63: 4258-4267.
3. Rásó, E., Döme, B., Somlai, B., Zacharek, A., Hagmann, W., Honn, K.V. and Tímár, J. 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.

CHROMOSOMAL LOCATION

Genetic locus: ALOX12 (human) mapping to 17p13.1; Alox12 (mouse) mapping to 11 B3.

SOURCE

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

Blocking peptide available for competition studies, sc-27359 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

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

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

Platelet-type 12-LO (C-20) is also recommended for detection of Platelet-type 12-LO in additional species, including equine and bovine.

Suitable for use as control antibody for 12-LO siRNA (h): sc-45984, 12-LO siRNA (m): sc-45985, 12-LO shRNA Plasmid (h): sc-45984-SH, 12-LO shRNA Plasmid (m): sc-45985-SH, 12-LO shRNA (h) Lentiviral Particles: sc-45984-V and 12-LO shRNA (m) Lentiviral Particles: sc-45985-V.

Molecular Weight of Platelet-type 12-LO: 76 kDa.

Positive Control: human platelet lysate: sc-363773.

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) 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.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.



Try **12-LO (C-5): sc-365194**, our highly recommended monoclonal alternative to Platelet-type 12-LO (C-20).