

12-LO (m): 293T Lysate: sc-178202

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 $\alpha v/\beta 5$ integrin 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. Overexpression 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 (mouse) mapping to 11 B3.

PRODUCT

12-LO (m): 293T Lysate represents a lysate of mouse 12-LO transfected 293T cells and is provided as 100 μ g protein in 200 μ l SDS-PAGE buffer.

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.

APPLICATIONS

12-LO (m): 293T Lysate is suitable as a Western Blotting positive control for mouse reactive 12-LO antibodies. Recommended use: 10-20 μ l per lane.

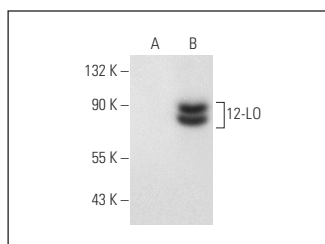
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

12-LO (C-5): sc-365194 is recommended as a positive control antibody for Western Blot analysis of enhanced mouse 12-LO expression in 12-LO 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 κ BP-HRP: sc-516102 or m-IgG κ 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



12-LO (C-5): sc-365194. Western blot analysis of 12-LO expression in non-transfected: sc-117752 (A) and mouse 12-LO transfected: sc-178202 (B) 293T whole cell lysates.

RESEARCH USE

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

PROTOCOLS

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