

15-LO (B-7): sc-133085

BACKGROUND

Lipoxygenases are a family of enzymes which dioxygenate unsaturated fatty acids, thus initiating lipoperoxidation of membranes and 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 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. 15-lipoxygenase (15-LO) acts in physiological membrane remodeling and the pathogenesis of atherosclerosis, inflammation, and carcinogenesis. It is highly regulated and expressed in a tissue- and cell-type-specific fashion. IL-4 and IL-13 play important roles in transactivating the 15-LO gene. Overexpression of 15-LO type 1 in prostate cancer contributes to the cancer progression by regulating IGF-1R expression and activation.

CHROMOSOMAL LOCATION

Genetic locus: ALOX15 (human) mapping to 17p13.2; Alox15 (mouse) mapping to 11 B3.

SOURCE

15-LO (B-7) is a mouse monoclonal antibody raised against acids 428-662 mapping at the C-terminus of 15-LO of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

15-LO (B-7) is available conjugated to agarose (sc-133085 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-133085 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-133085 PE), fluorescein (sc-133085 FITC), Alexa Fluor® 488 (sc-133085 AF488), Alexa Fluor® 546 (sc-133085 AF546), Alexa Fluor® 594 (sc-133085 AF594) or Alexa Fluor® 647 (sc-133085 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-133085 AF680) or Alexa Fluor® 790 (sc-133085 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

15-LO (B-7) is recommended for detection of 15-LO and leukocyte-, platelet- and epidermal-type 12-LO of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg 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).

Molecular Weight of 15-LO: 75 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210, c4 whole cell lysate: sc-364186 or MCF7 whole cell lysate: sc-2206.

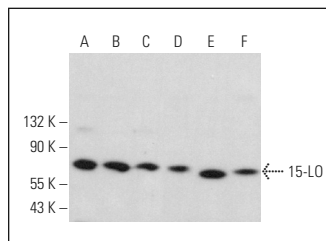
RESEARCH USE

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

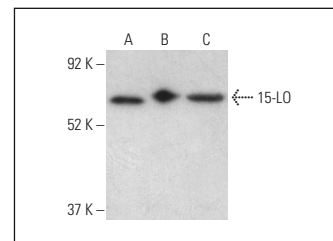
STORAGE

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

DATA



15-LO (B-7): sc-133085. Western blot analysis of 15-LO expression in NIH/3T3 (A), c4 (B), AMJ2-C8 (C), EOC 20 (D), MCF7 (E) and PC-12 (F) whole cell lysates.



15-LO (B-7) HRP: sc-133085 HRP. Direct western blot analysis of 15-LO expression in MCF7 (A), AMJ2-C8 (B) and c4 (C) whole cell lysates.

SELECT PRODUCT CITATIONS

- Maayah, Z.H., et al. 2017. The role of cytochrome P450 1B1 and its associated mid-chain hydroxyeicosatetraenoic acid metabolites in the development of cardiac hypertrophy induced by isoproterenol. *Mol. Cell. Biochem.* 429: 151-165.
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- Zhao, J., et al. 2020. Cepharanthine attenuates cerebral ischemia/reperfusion injury by reducing NLRP3 inflammasome-induced inflammation and oxidative stress via inhibiting 12/15-LOX signaling. *Biomed. Pharmacother.* 127: 110151.
- Wang, P., et al. 2021. Mitochondrial ferritin attenuates cerebral ischaemia/reperfusion injury by inhibiting ferroptosis. *Cell Death Dis.* 12: 447.
- Shum, M., et al. 2022. CF patients' airway epithelium and sex contribute to biosynthesis defects of pro-resolving lipids. *Front. Immunol.* 13: 915261.
- Qiu, Q., et al. 2023. HDAC I/IIb selective inhibitor purinostat mesylate combined with GLS1 inhibition effectively eliminates CML stem cells. *Bioact. Mater.* 21: 483-498.
- Namiki, T., et al. 2023. Uterine epithelial Gp130 orchestrates hormone response and epithelial remodeling for successful embryo attachment in mice. *Sci. Rep.* 13: 854.
- Wan, Y., et al. 2023. Baicalein limits osteoarthritis development by inhibiting chondrocyte ferroptosis. *Free Radic. Biol. Med.* 196: 108-120.
- Xu, P., et al. 2023. Elabela-APJ axis attenuates cerebral ischemia/reperfusion injury by inhibiting neuronal ferroptosis. *Free Radic. Biol. Med.* 196: 171-186.

PROTOCOLS

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