SANTA CRUZ BIOTECHNOLOGY, INC.

LTA4H (D-6): sc-390567

BACKGROUND

Leukotrienes are biologically active compounds formed from arachidonic acid or polyunsaturated fatty acids that are important in host defense reactions and play a pathophysiological role in inflammation and allergic reactions. LTA4H (leukotriene A4-hydrolase) is a Zn^{2+}-containing enzyme with both epoxide hydrolase and aminopeptidase activity. As an epoxide hydrolase, LTA4H catalyzes the hydration of LTA4 to leukotriene B4 (LTB4, 5S,12R-dihydroxy-6,14-*cis*-8,10-*trans*-eicosatetraenoic acid), a potent lipid chemoattractant that influences inflammation, immune responses and host defense against infection. As an aminopeptidase, LTA4H catalyzes the cleavage of amides of paranitroaniline. The human LTA4H gene encodes a 610 amino acid protein.

REFERENCES

1. Minami, M., et al. 1987. Molecular cloning of a cDNA coding for human leukotriene A4 hydrolase. Complete primary structure of an enzyme involved in eicosanoid synthesis. J. Biol. Chem. 262: 13873-13876.
2. Funk, C.D., et al. 1987. Molecular cloning and amino acid sequence of leukotriene A4 hydrolase. Proc. Natl. Acad. Sci. USA 84: 6677-6681.
3. Gierse, J.K., et al. 1993. High-level expression and purification of human leukotriene A4 hydrolase from insect cells infected with a baculovirus vector. Protein Expr. Purif. 4: 358-366.
4. Parnas, B.L., et al. 1996. Isolation and structure of leukotriene-A_4 hydrolase inhibitor: 8(S)-amino-2(R)-methyl-7-oxononanoic acid produced by *Streptomyces diastaticus*. J. Nat. Prod. 59: 962-964.

CHROMOSOMAL LOCATION

Genetic locus: LTA4H (human) mapping to 12q23.1; Lta4h (mouse) mapping to 10 C2.

SOURCE

LTA4H (D-6) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 585-611 at the C-terminus of LTA4H of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

LTA4H (D-6) is available conjugated to agarose (sc-390567 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-390567 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-390567 PE), fluorescein (sc-390567 FITC), Alexa Fluor® 488 (sc-390567 AF488), Alexa Fluor® 546 (sc-390567 AF546), Alexa Fluor® 594 (sc-390567 AF594) or Alexa Fluor® 647 (sc-390567 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-390567 AF680) or Alexa Fluor® 790 (sc-390567 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-390567 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

LTA4H (D-6) is recommended for detection of LTA4H 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).

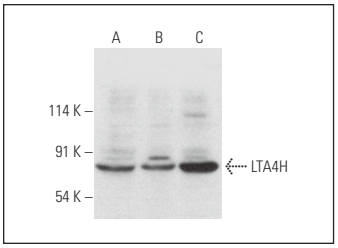
LTA4H (D-6) is also recommended for detection of LTA4H in additional species, including bovine.

Suitable for use as control antibody for LTA4H siRNA (h): sc-43895, LTA4H siRNA (m): sc-42897, LTA4H shRNA Plasmid (h): sc-43895-SH, LTA4H shRNA Plasmid (m): sc-42897-SH, LTA4H shRNA (h) Lentiviral Particles: sc-43895-V and LTA4H shRNA (m) Lentiviral Particles: sc-42897-V.

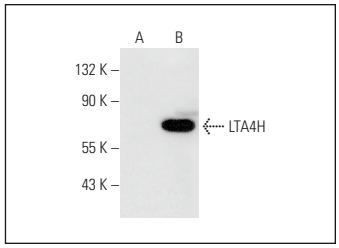
Molecular Weight of LTA4H: 70 kDa.

Positive Controls: LTA4H (h): 293T Lysate: sc-115261, A549 cell lysate: sc-2413 or Jurkat whole cell lysate: sc-2204.

DATA



LTA4H (D-6): sc-390567. Western blot analysis of LTA4H expression in Jurkat (**A**), A549 (**B**) and HeLa (**C**) whole cell lysates.



LTA4H (D-6): sc-390567. Western blot analysis of LTA4H expression in non-transfected: sc-110760 (**A**) and human LTA4H transfected: sc-115261 (**B**) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. Lorenzetti, F., et al. 2019. Participation of 5-lipoxygenase and LTB4 in liver regeneration after partial hepatectomy. Sci. Rep. 9: 18176.
2. Weisser, H., et al. 2023. Knock-out of 5-lipoxygenase in overexpressing tumor cells-consequences on gene expression and cellular function. Cancer Gene Ther. 30: 108-123.
3. Göbel, T., et al. 2023. Three-dimensional growth reveals fine-tuning of 5-lipoxygenase by proliferative pathways in cancer. Life Sci. Alliance 6: e202201804.

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.