SANTA CRUZ BIOTECHNOLOGY, INC.

LTA4H (E-7): sc-514465

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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-A4 hydrolase inhibitor: 8(S)-amino-2(R)-methyl-7-oxononanoic acid produced by *Streptomyces* diastaticus. J. Nat. Prod. 59: 962-964.
5. Online Mendelian Inheritance in Man, OMIM™. 1998. Johns Hopkins University, Baltimore, MD. MIM Number: 151570. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
6. Thunnissen, M.M., et al. 2001. Crystal structure of human leukotriene A4 hydrolase, a bifunctional enzyme in inflammation. Nat. Struct. Biol. 8: 131-135.
7. Rudberg, P.C., et al. 2002. Leukotriene A4 hydrolase: selective abrogation of leukotriene B4 formation by mutation of aspartic acid 375. Proc. Natl. Acad. Sci. USA 99: 4215-4220.
8. LocusLink Report (LocusID: 4048). http://www.ncbi.nlm.nih.gov/LocusLink/

CHROMOSOMAL LOCATION

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

SOURCE

LTA4H (E-7) is a mouse monoclonal antibody raised against amino acids 55-203 mapping near the N-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.

APPLICATIONS

LTA4H (E-7) 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).

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.

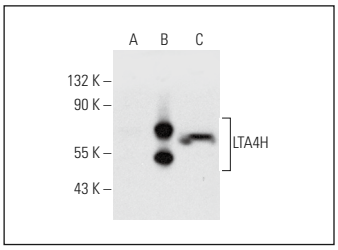
Molecular Weight of LTA4H: 70 kDa.

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

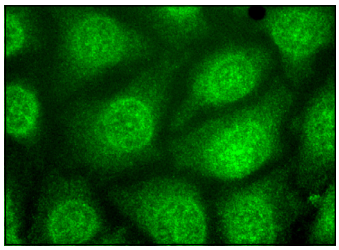
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ 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. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



LTA4H (E-7): sc-514465. Western blot analysis of LTA4H expression in non-transfected 293T: sc-117752 (**A**), human LTA4H transfected 293T: sc-115261 (**B**) and Jurkat (**C**) whole cell lysates.



LTA4H (E-7): sc-514465. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear and cytoplasmic localization.

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 for detailed protocols and support products.