

LTA4H (h): 293T Lysate: sc-115261

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 Zn²⁺-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 para-nitroaniline. 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.

CHROMOSOMAL LOCATION

Genetic locus: LTA4H (human) mapping to 12q23.1.

PRODUCT

LTA4H (h): 293T Lysate represents a lysate of human LTA4H transfected 293T cells and is provided as 100 µg protein in 200 µl 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.

PROTOCOLS

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

APPLICATIONS

LTA4H (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive LTA4H antibodies. Recommended use: 10-20 µl per lane.

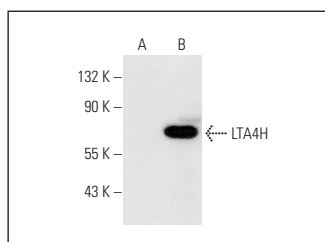
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

LTA4H (D-6): sc-390567 is recommended as a positive control antibody for Western Blot analysis of enhanced human LTA4H expression in LTA4H transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

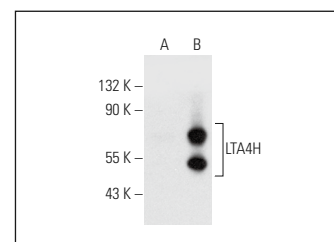
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended:
1) Western Blotting: use m-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.

DATA



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.



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

RESEARCH USE

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