

Leukotriene A4 hydrolase (C-21): sc-23070

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 parantioaniline. 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. 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.
3. 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.
4. 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/>
5. Thunnissen, M.M., et al. 2001. Crystal structure of human leukotriene A(4) hydrolase, a bifunctional enzyme in inflammation. *Nat. Struct. Biol.* 8: 131-135.
6. 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.
7. 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 (C-21) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of LTA4H of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-23070 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

LTA4H (C-21) is recommended for detection of LTA4H of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

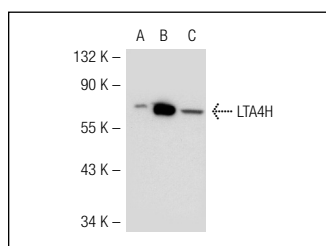
LTA4H (C-21) is also recommended for detection of LTA4H in additional species, including equine, canine and bovine.

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

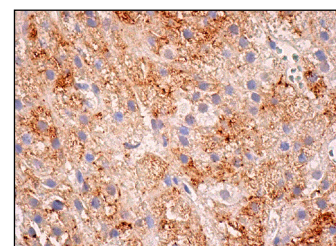
Molecular Weight of Leukotriene A4 hydrolase: 70 kDa.

Positive Controls: LTA4H (m): 293T Lysate: sc-121433, LADMAC whole cell lysate: sc-364189 or Jurkat whole cell lysate: sc-2204.

DATA



LTA4H (C-21): sc-23070. Western blot analysis of LTA4H expression in non-transfected 293T: sc-117752 (A), mouse LTA4H transfected 293T: sc-121433 (B) and LADMAC (C) whole cell lysates.



LTA4H (C-21): sc-23070. Immunoperoxidase staining of formalin fixed, paraffin-embedded human adrenal gland tissue showing cytoplasmic staining of glandular cells.

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 or our catalog for detailed protocols and support products.

MONOS
Satisfaction
Guaranteed

Try **LTA4H (D-6): sc-390567** or **LTA4H (E-7): sc-514465**, our highly recommended monoclonal alternatives to LTA4H (C-21).