

LACTB2 (K-14): sc-99494

BACKGROUND

Penicillin refers to any member of β -lactam antibiotics group. These agents are identified by a β -lactam ring within their molecular structure. As the most widely used group of antibiotics available, β -lactams are used for the treatment of bacterial infections usually caused by gram-positive organisms. β -lactam antibiotics are bactericidal, functioning to inhibit the synthesis of the peptidoglycan layer of bacterial cell walls. Bacterial penicillin-binding proteins and β -lactamases constitute a large family of serine proteases that perform essential functions in the synthesis and maintenance of peptidoglycan cell wall. Notably, β -lactamases cleave β -lactams, therefore providing the bacteria with resistance to the antibiotic. Homologues of β -lactamases occur in many species, including human, rat, bovine, rabbit, porcine, *Xenopus*, zebrafish and *C. elegans*. The human homologues, LACTB and LACTB2, are active-site-serine enzymes thought to be involved in metabolism.

REFERENCES

1. Smith, T.S., et al. 2001. Identification, genomic organization, and mRNA expression of LACTB, encoding a serine β -lactamase-like protein with an amino-terminal transmembrane domain. *Genomics* 78: 12-14.
2. Online Mendelian Inheritance in Man, OMIM™. 2004. Johns Hopkins University, Baltimore, MD. MIM Number: 608440. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
3. Liobikas, J., et al. 2006. Expression and purification of the mitochondrial serine protease LACTB as an N-terminal GST fusion protein in *Escherichia coli*. *Protein Expr. Purif.* 45: 335-342.
4. Romano, A., et al. 2006. A comparison of the performance of two penicillin reagent kits in the diagnosis of β -lactam hypersensitivity. *Allergy* 62: 53-58.
5. Ruddle, C.C. and Smyth, T.P. 2006. Exploring the chemistry of penicillin as a β -lactamase-dependent prodrug. *Org. Biomol. Chem.* 5: 160-168.
6. Peitsaro, N., et al. 2008. Evolution of a family of metazoan active-site-serine enzymes from penicillin-binding proteins: a novel facet of the bacterial legacy. *BMC Evol. Biol.* 8: 26.
7. Chen, Y., et al. 2008. Variations in DNA elucidate molecular networks that cause disease. *Nature* 452: 429-435.

CHROMOSOMAL LOCATION

Genetic locus: LACTB2 (human) mapping to 8q13.3; Lactb2 (mouse) mapping to 1 A3.

SOURCE

LACTB2 (K-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of LACTB2 of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-99494 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

LACTB2 (K-14) is recommended for detection of LACTB2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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).

LACTB2 (K-14) is also recommended for detection of LACTB2 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for LACTB2 siRNA (h): sc-77679, LACTB2 siRNA (m): sc-146633, LACTB2 shRNA Plasmid (h): sc-77679-SH, LACTB2 shRNA Plasmid (m): sc-146633-SH, LACTB2 shRNA (h) Lentiviral Particles: sc-77679-V and LACTB2 shRNA (m) Lentiviral Particles: sc-146633-V.

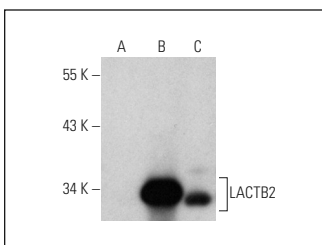
Molecular Weight of LACTB2: 33 kDa.

Positive Controls: LACTB2 (m): 293T Lysate: sc-121271, SK-BR-3 cell lysate: sc-2218 or HeLa whole cell lysate: sc-2200.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



LACTB2 (K-14): sc-99494. Western blot analysis of LACTB2 expression in non-transfected 293T: sc-117752 (A), mouse LACTB2 transfected 293T: sc-121271 (B) and SK-BR-3 (C) whole cell lysates.

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.