XYLB (A-19): sc-99722

SANTA CRUZ®
BIOTECHNOLOGY

The Power to Question

BACKGROUND

XYLB (xylulose kinase or xylulokinase) is a 536 amino acid protein that utllizes ATP to phosphorylate D-xylulose and may play a role in energy metabolism. The XYLB gene resides on chromosome 3, which contains about 214 million bases encoding over 1,100 genes. Notably, there is a chemokine receptor gene cluster and a variety of human cancer related loci on chromosome 3. Particular regions of the chromosome 3 short arm are deleted in many types of cancer cells. Key tumor suppressing genes on chromosome 3 encode apoptosis mediator RASSF1, cell migration regulator HYAL1 and angiogenesis suppressor SEMA3B. Marfan syndrome, porphyria, von Hippel-Lindau syndrome, osteogenesis imperfecta and Charcot-Marie-Tooth disease are a few of the numerous genetic diseases associated with chromosome 3.

REFERENCES

1. Tamari, M., et al. 1998. Genomic structure of a novel human gene (XYLB) on chromosome 3p22 → p21.3 encoding a xylulokinase-like protein. Cytogenet. Cell Genet. 82: 101-104.

2. Müller, S., et al. 2000. Molecular cytogenetic dissection of human chromosomes 3 and 21 evolution. Proc. Natl. Acad. Sci. USA 97: 206-211.

3. Braga, E.A., et al. 2003. New tumor suppressor genes in hot spots of human chromosome 3: new methods of identification. Mol. Biol. 37: 194-211.

4. Tsend-Ayush, E., et al. 2004. Plasticity of human chromosome 3 during primate evolution. Genomics 83: 193-202.

5. Yue, Y., et al. 2005. Comparative cytogenetics of human chromosome 3q21.3 reveals a hot spot for ectopic recombination in hominoid evolution. Genomics 85: 36-47.

6. Darai, E., et al. 2005. Evolutionarily plastic regions at human 3p21.3 coincide with tumor breakpoints identified by the "elimination test." Genomics 86: 1-12.

7. Yue, Y., et al. 2005. Genomic structure and paralogous regions of the inversion breakpoint occurring between human chromosome 3p12.3 and orangutan chromosome 2. Cytogenet. Genome Res. 108: 98-105.

8. Muzny, D.M., et al. 2006. The DNA sequence, annotation and analysis of human chromosome 3. Nature 440: 1194-1198.

9. Nareyeck, G., et al. 2006. Establishment and characterization of two uveal melanoma cell lines derived from tumors with loss of one chromosome 3. Exp. Eye Res. 83: 858-864.

CHROMOSOMAL LOCATION

Genetic locus: XYLB (human) mapping to 3p22.2; Xylb (mouse) mapping to 9 F3.

SOURCE

XYLB (A-19) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping near the C-terminus of XYLB of human origin.

RESEARCH USE

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

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-99722 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

XYLB (A-19) is recommended for detection of XYLB 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

XYLB (A-19) is also recommended for detection of XYLB in additional species, including equine and canine.

Suitable for use as control antibody for XYLB siRNA (h): sc-78008, XYLB siRNA (m): sc-155398, XYLB shRNA Plasmid (h): sc-78008-SH, XYLB shRNA Plasmid (m): sc-155398-SH, XYLB shRNA (h) Lentiviral Particles: sc-78008-V and XYLB shRNA (m) Lentiviral Particles: sc-155398-V.

Molecular Weight of XYLB: 48 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200.

DATA
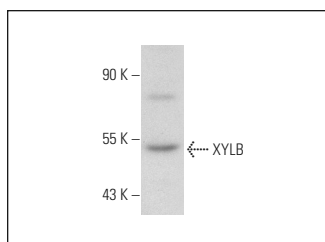
XYLB (A-19): sc-99722. Western blot analysis of XYLB expression in HeLa whole cell lysate.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

PROTOCOLS

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