SANTA CRUZ BIOTECHNOLOGY, INC.

Purβ (D-14): sc-165315

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Purβ (Purine-rich element-binding protein B), also known as transcriptional activator protein Pur-β, is a 312 amino acid protein that belongs to the PUR DNA-binding protein family. The Purβ gene product is a sequence-specific, single-stranded DNA-binding protein. It binds preferentially to the single strand of the purine-rich element termed PUR, which is present at origins of replication and in gene flanking regions in a variety of eukaryotes from yeasts through humans. Thus, the Purβ protein is implicated in the control of both DNA replication and transcription. Deletion of the Purβ gene has been associated with myelodysplastic syndrome and acute myelogenous leukemia (AML), which is a malignant disease where in hematopoietic precursors are arrested in an early stage of development. Localizing to nucleus, the Purβ protein is expressed in myocardium of heart failure patients. The Purβ gene is conserved in mouse, rat, zebrafish, fruit fly, mosquito, *C. elegans*, *A. thaliana* and rice. and maps to human chromosome 7p13.

REFERENCES

1. Bergemann, A.D., et al. 1992. Sequence of cDNA comprising the human pur gene and sequence-specific single-stranded-DNA-binding properties of the encoded protein. Mol. Cell. Biol. 12: 5673-5682.
2. Kelm, R.J., et al. 1996. Repression of transcriptional enhancer factor-1 and activator protein-1-dependent enhancer activity by vascular actin single-stranded DNA binding factor 2. J. Biol. Chem. 271: 24278-24285.
3. Kelm, R.J., et al. 1997. Sequence of cDNAs encoding components of vascular actin single-stranded DNA-binding factor 2 establish identity to Purα and Purβ. J. Biol. Chem. 272: 26727-26733.
4. Lezon-Geyda, K., et al. 2001. Deletions of PURα, at 5q31, and PURβ, at 7p13, in myelodysplastic syndrome and progression to acute myelogenous leukemia. Leukemia. 15: 954-962.
5. Gupta, M., et al. 2003. Single-stranded DNA-binding proteins PURα and PURβ bind to a purine-rich negative regulatory element of the α-myosin heavy chain gene and control transcriptional and translational regulation of the gene expression. Implications in the repression of α-myosin heavy chain during heart failure. J. Biol. Chem. 278: 44935-44948.
6. Hillier, L.W., et al. 2003. The DNA sequence of human chromosome 7. Nature 424: 157-164.
7. Online Mendelian Inheritance in Man, OMIM™. 2004. Johns Hopkins University, Baltimore, MD. MIM Number: 608887: 8/30/2004 World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/

CHROMOSOMAL LOCATION

Genetic locus: PURB (human) mapping to 7p13; Purb (mouse) mapping to 11 A1.

STORAGE

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

SOURCE

Purβ (D-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of Purβ 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-165315 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

Available as TransCruz reagent for Gel Supershift and ChIP applications, sc-165315 X, 200 µg/0.1 ml.

APPLICATIONS

Purβ (D-14) is recommended for detection of Purβ of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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); non cross-reactive with Purα or Purγ.

Suitable for use as control antibody for Purβ siRNA (h): sc-89882, Purβ siRNA (m): sc-155954, Purβ shRNA Plasmid (h): sc-89882-SH, Purβ shRNA Plasmid (m): sc-155954-SH, Purβ shRNA (h) Lentiviral Particles: sc-89882-V and Purβ shRNA (m) Lentiviral Particles: sc-155954-V.

Purβ (D-14) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of Purβ: 33 kDa.

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) 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.

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.