SANTA CRUZ BIOTECHNOLOGY, INC.

PRPS2 (L-22): sc-133927

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

PRPS (phosphoribosyl pyrophosphate synthetase) proteins catalyze the synthesis of phosphoribosyl pyrophosphate (PRPP). Three human PRPS isoforms exist and are encoded by three different genes. PRPS1 and PRPS2 (also known as PRS1 and PRS2, respectively) are ubiquitously expressed, while PRPS3 (also known as PRPS1L1) is specific to the testes. PRPP is an important substrate synthesized from MgATP and ribose-5-phosphate in a reaction that requires inorganic phosphate and magnesium as a cofactor. PRPP is essential in the synthesis of nearly all nucleotides, implying that PRPS proteins play an important role in nucleotide biosynthesis and purine metabolism. PRPS2 is a 318 amino acid protein that exists as a homodimer and a hexamer composed of three homodimers.

REFERENCES

1. Kunjara, S., et al 1992. Phosphoribosyl pyrophosphate formation in the rat adrenal gland in relation to adrenal growth in experimental diabetes. Diabetes 41: 1429-1435.
2. Ishizuka, T., et al. 1992. Promoter regions of the human X-linked housekeeping genes PRPS1 and PRPS2 encoding phosphoribosylpyrophosphate synthetase subunit I and II isoforms. Biochim. Biophys. Acta 1130: 139-148.
3. Fujimori, S. 1996. PRPP synthetase superactivity. Nippon Rinsho 54: 3309-3314.
4. Ahmed, M., et al. 1999. Accelerated transcription of PRPS1 in X-linked overactivity of normal human phosphoribosylpyrophosphate synthetase. J. Biol. Chem. 274: 7482-7488.
5. García-Pavía, P., et al. 2003. Phosphoribosylpyrophosphate synthetase overactivity as a cause of uric acid overproduction in a young woman. Arthritis Rheum. 48: 2036-2041.
6. Tang, W., et al 2006. Expression, purification, crystallization and preliminary X-ray diffraction analysis of human phosphoribosyl pyrophosphate synthetase 1 (PRS1). Acta Crystallogr. Sect. F Struct. Biol. Cryst. Commun. 62: 432-434.

CHROMOSOMAL LOCATION

Genetic locus: PRPS2 (human) mapping to Xp22.2; Prps2 (mouse) mapping to X F5.

SOURCE

PRPS2 (L-22) is a Protein A purified rabbit polyclonal antibody raised against synthetic PRPS2 peptide of human origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml PBS with < 0.1% sodium azide, 0.1% gelatin and < 0.02% sucrose.

STORAGE

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

APPLICATIONS

PRPS2 (L-22) is recommended for detection of PRPS2 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)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for PRPS2 siRNA (h): sc-106454, PRPS2 siRNA (m): sc-152502, PRPS2 shRNA Plasmid (h): sc-106454-SH, PRPS2 shRNA Plasmid (m): sc-152502-SH, PRPS2 shRNA (h) Lentiviral Particles: sc-106454-V and PRPS2 shRNA (m) Lentiviral Particles: sc-152502-V.

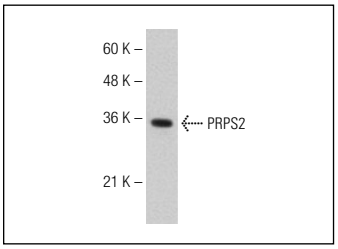
Molecular Weight of PRPS2: 34 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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).

DATA



PRPS2 (L-22): sc-133927. Western blot analysis of PRPS2 expression in Jurkat whole cell lysate.

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.