SANTA CRUZ BIOTECHNOLOGY, INC.

RPIA (G-14): sc-161204

BACKGROUND

RPIA (ribose 5-phosphate isomerase A), also known as RPI (rhosphoriboisomerase), is a 311 amino acid enzyme that catalyzes the conversion of ribose-5-phosphate to ribulose-5-phosphate in the pentose-phosphate pathway. Essential for carbohydrate metabolism, RPIA is a member of the ribose 5-phosphate isomerase family and is encoded by a gene that maps to human chromosome 2p11.2. Defects in the RPIA gene are the cause of ribose 5-phosphate isomerase deficiency (RPID), a disorder characterized by leukoencephalopathy and peripheral neuropathy. A number of other diseases are linked to genes on chromosome 2 including Harlequin icthyosis, sitosterolemia and Alström syndrome.

REFERENCES

1. Spencer, N., et al. 1980. Biochemical genetics of the pentose phosphate cycle: human ribose 5-phosphate isomerase (RPI) and ribulose 5-phosphate 3-epimerase (RPE). Ann. Hum. Genet. 43: 335-342.
2. Bublitz, C., et al. 1988. The pentose phosphate pathway in the endoplasmic reticulum. J. Biol. Chem. 263: 12849-12853.
3. Apel, T.W., et al. 1995. The ribose 5-phosphate isomerase-encoding gene is located immediately downstream from that encoding murine immunoglobulin κ. Gene 156: 191-197.
4. Shulenin, S., et al. 2001. An ATP-binding cassette gene (ABCG5) from the ABCG (white) gene subfamily maps to human chromosome 2p21 in the region of the Sitosterolemia locus. Cytogenet. Cell Genet. 92: 204-208.
5. Hearn, T., et al. 2002. Mutation of ALMS1, a large gene with a tandem repeat encoding 47 amino acids, causes Alström syndrome. Nat. Genet. 31: 79-83.

CHROMOSOMAL LOCATION

Genetic locus: RPIA (human) mapping to 2p11.2; Rpia (mouse) mapping to 6 C1.

SOURCE

RPIA (G-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of RPIA 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-161204 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

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.

APPLICATIONS

RPIA (G-14) is recommended for detection of RPIA 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); non cross-reactive with RPIB9.

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

Suitable for use as control antibody for RPIA siRNA (h): sc-94587, RPIA siRNA (m): sc-153103, RPIA shRNA Plasmid (h): sc-94587-SH, RPIA shRNA Plasmid (m): sc-153103-SH, RPIA shRNA (h) Lentiviral Particles: sc-94587-V and RPIA shRNA (m) Lentiviral Particles: sc-153103-V.

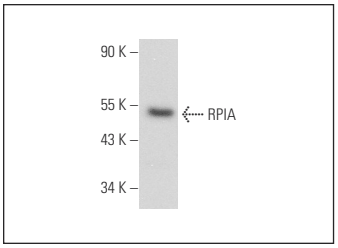
Molecular Weight of RPIA: 33 kDa.

Positive Controls: Caki-1 cell lysate: sc-2224.

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



RPIA (G-14): sc-161204. Western blot analysis of RPIA expression in Caki-1 whole cell lysate.

RESEARCH USE

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