SANTA CRUZ BIOTECHNOLOGY, INC.

PIR1 (K-15): sc-47920

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The Power to Question

BACKGROUND

Mitogen-activated protein (MAP) kinases are a large class of proteins involved in signal transduction pathways that are activated by a range of stimuli and mediate a number of physiological and pathological changes in the cell. Dual specificity phosphatases (DUSPs) are a subclass of the protein tyrosine phosphatase (PTP) gene superfamily, which are selective for dephosphorylating critical phosphothreonine and phosphotyrosine residues within MAP kinases. DUSP gene expression is induced by a host of growth factors and/or cellular stresses, thereby negatively regulating MAP kinase superfamily members including MAPK/ERK, SAPK/JNK and p38. One member of this subfamily PIR1 (phosphatase that interacts with RNA/RNP complex 1, also designated Dual specificity protein phosphatase 11) removes two phosphates from the 5'-triphosphate end of RNA, but not from mononucleotide triphosphates. PIR1 interacts with splicing factors 9G8 and SRp30C, and may participate in nuclear mRNA metabolism.

REFERENCES

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4. Yuan, Y., Li, D.M. and Sun, H. 1998. PIR1, a novel phosphatase that exhibits hig complexes. J. Biol. Chem. 273: 20347-20353.
5. Deshpande, T., Takagi, T., Hao, L., Buratowski, S. and Charbonneau, H. 1999. Human PIR1 of the protein-tyrosine phosphatase superfamily has RNA 5'-triphosphatase and diphosphatase activities. J. Biol. Chem. 274: 16590-16594.
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7. Martínez, A.I., Castillo, L., Garcerá, A., Elorza, M.V., Valentín, E. and Sentandreu, R. 2004. Role of PIR1 in the construction of the Candida albicans cell wall. Microbiology 150: 3151-3161.

CHROMOSOMAL LOCATION

Genetic locus: Dusp11 (mouse) mapping to 6 C3.

SOURCE

PIR1 (K-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of PIR1 of mouse origin.

STORAGE

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

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-47920 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

PIR1 (K-15) is recommended for detection of PIR1 of mouse 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).

Suitable for use as control antibody for PIR1 siRNA (m): sc-61358, PIR1 shRNA Plasmid (m): sc-61358-SH and PIR1 shRNA (m) Lentiviral Particles: sc-61358-V.

Molecular Weight of PIR1: 39 kDa.

Positive Controls: A-431 whole cell lysate: sc-2201 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.

RESEARCH USE

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