BACKGROUND

The catalytic subunit of protein phosphatase 2A (PP2A) is inactivated by in vitro phosphorylation of Tyr 307 by receptor and nonreceptor protein tyrosine kinases. The catalytic subunit of PP2A is phosphorylated by tyrosine-specific protein kinases and associates with a variety of regulatory subunits. Phosphorylation is enhanced in the presence of the phosphatase inhibitor okadaic acid, consistent with an autodephosphorylation reaction. Phosphorylation is catalyzed by p60v-Src, p56Lck, epidermal growth factor receptors and Insulin receptors. Transient deactivation of PP2A might enhance transmission of cellular signals through kinase cascades within cells. In eukaryotes, the phosphorylation and dephosphorylation of proteins on serine and threonine residues is an essential means of regulating a broad range of cellular functions, including cell division, homeostasis and apoptosis. A group of proteins that are intimately involved in this process are the protein phosphatases.

REFERENCES


2. Ueki, K., et al. 1992. Structure and expression of two isoforms of the kinases. The catalytic subunit of PP2A is phosphorylated by tyrosine-specific protein kinases and associates with a variety of regulatory subunits. Phosphorylation is enhanced in the presence of the phosphatase inhibitor okadaic acid, consistent with an autodephosphorylation reaction. Phosphorylation is catalyzed by p60v-Src, p56Lck, epidermal growth factor receptors and Insulin receptors. Transient deactivation of PP2A might enhance transmission of cellular signals through kinase cascades within cells. In eukaryotes, the phosphorylation and dephosphorylation of proteins on serine and threonine residues is an essential means of regulating a broad range of cellular functions, including cell division, homeostasis and apoptosis. A group of proteins that are intimately involved in this process are the protein phosphatases.

CHROMOSOMAL LOCATION

Genetic locus: PPP2CA (human) mapping to 5q31.1, PPP2CB (human) mapping to 8p12; Ppp2ca (mouse) mapping to 11 B1.3, Ppp2cb (mouse) mapping to 8 A4.

SOURCE

p-PP2A-Cα/β (F-8) is a mouse monoclonal antibody raised against a short amino acid sequence containing Tyr 307 phosphorylated PP2A-Cα of mouse origin.

PRODUCT

Each vial contains 200 µg IgG1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

p-PP2A-Cα/β (F-8) is available conjugated to agarose (sc-271903 AC), 500 µg/0.5 ml agarose in 1 ml, for IP; to HRP (sc-271903 HRP), 200 µg/ml, for WB, HICP and ELISA; to either phycoerythrin (sc-271903 PE), fluorescein (sc-271903 FITC), Alexa Fluor® 488 (sc-271903 AF488), Alexa Fluor® 546 (sc-271903 AF546), Alexa Fluor® 594 (sc-271903 AF594) or Alexa Fluor® 647 (sc-271903 AF647), 200 µg/ml, for WB (RGB), IF, HICP and FCM; and to either Alexa Fluor® 880 (sc-271903 AF880) or Alexa Fluor® 790 (sc-271903 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM. Blocking peptide available for competition studies, sc-271903 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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APPLICATIONS

p-PP2A-Cα/β (F-8) is recommended for detection of Tyr 307 phosphorylated PP2A-C α and β isoforms of broad species origin by Western Blotting (starting dilution 1:100, 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Molecular Weight of p-PP2A-Cα/β: 36 kDa.

Positive Controls: C5 whole cell lysate: sc-364373, HeLa whole cell lysate: sc-2200 or IMR-32 cell lysate: sc-2409.

DATA

p-PP2A-Cα/β (F-8): sc-271903. Western blot analysis of p-PP2A-Cα/β phosphorylation in HeLa (A), IMR-32 (B), Jurkat (C), NIH/3T3 (D), EOC 20 (E) and C6 (F) whole cell lysates.

SELECT PRODUCT CITATIONS


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 for detailed protocols and support products.