SANTA CRUZ BIOTECHNOLOGY, INC.

p-PP2A-Cα/β (Tyr 307): sc-12615

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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.

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 (Tyr 307) is available as either a goat (sc-12615) or rabbit (sc-12615-R) polyclonal antibody raised against a short amino acid sequence containing Tyr 307 phosphorylated PP2A-Cα of mouse 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-12615 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

p-PP2A-Cα/β (Tyr 307) is recommended for detection of Tyr 307 phosphorylated PP2A-C α and β isoforms of broad species 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).

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

Positive Controls: MCF7 whole cell lysate: sc-2206 or HeLa whole cell lysate: sc-2200.

STORAGE

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

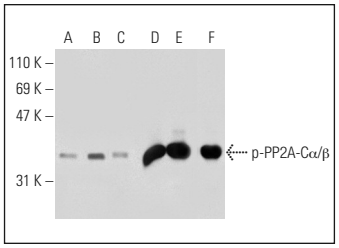
PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.

RESEARCH USE

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

DATA



Western blot analysis of PP2A-Cα/β phosphorylation in untreated (**A**,**D**), EGF treated (**B**,**E**) and EGF and Alkaline phosphatase treated (**C**,**F**) HeLa whole cell lysates. Antibodies tested include p-PP2A-Cα/β (Tyr 307)-R: sc-12615-R (**A**,**B**,**C**) and PP2A-CCα/β (1D6): sc-80665 (**D**,**E**,**F**).

SELECT PRODUCT CITATIONS

1. Ke, Y., et al. 2003. Intracellular localization and functional effects of P21-activated kinase-1 (Pak1) in cardiac myocytes. Circ. Res. 94: 194-200.
2. Ortega-Gutiérrez, S., et al. 2008. Targeted disruption of the PME-1 gene causes loss of demethylated PP2A and perinatal lethality in mice. PLoS ONE 3: e2486.
3. Eroglu, B., et al. 2010. Loss of Hsp110 leads to age-dependent tau hyperphosphorylation and early accumulation of insoluble amyloid β. Mol. Cell. Biol. 30: 4626-4643.
4. Mahajan, U.M., et al. 2011. Alteration in inflammatory/apoptotic pathway and histone modifications by nordihydroguaiaretic acid prevents acute pancreatitis in swiss albino mice. Apoptosis 16: 1138-1149.
5. Liu, X.P., et al. 2012. Upregulation of astrocytes protein phosphatase-2A stimulates astrocytes migration via inhibiting p38 MAPK in tg2576 mice. Glia 60: 1279-1288.
6. Park, S.S., et al. 2012. Asp664 cleavage of amyloid precursor protein induces Tau phosphorylation by decreasing protein phosphatase 2A activity. J. Neurochem. 123: 856-865.
7. Schweitzer, G.G., et al. 2012. Sustained postexercise increases in AS160 Thr642 and Ser588 phosphorylation in skeletal muscle without sustained increases in kinase phosphorylation. J. Appl. Physiol. 113: 1852-1861.
8. Wu, C.W., et al. 2013. Effects of hibernation on regulation of mammalian protein phosphatase type-2-A. Cryobiology 66: 267-274.