SANTA CRUZ BIOTECHNOLOGY, INC.

PP2A-B56-γ (A-11): sc-374379

BACKGROUND

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 division, homeostasis and apoptosis. A group of proteins that are intimately involved in this process are the protein phosphatases. In general, the protein phosphatase (PP) holoenzyme is a trimeric complex composed of a regulatory subunit, a variable subunit, and a catalytic subunit. Four major families of protein phosphatase catalytic subunits have been identified, designated PP1, PP2A, PP2B (calcineurin) and PP2C. An additional protein phosphatase catalytic subunit, PPX (also known as PP4) is a putative member of a novel PP family. The PP2A family comprises subfamily members PP2Aα and PP2Aβ. The PP2A catalytic subunit associates with a variety of regulatory subunits. Regulatory subunits include PP2A-A-α and -A-β, PP2A-B-α and -B-β, PP2A-C-α and -C-β, PP2A-B56-α, -B56-β, -B56-γ and -B56-δ.

CHROMOSOMAL LOCATION

Genetic locus: PPP2R5C (human) mapping to 14q32.31; Ppp2r5c (mouse) mapping to 12 F1.

SOURCE

PP2A-B56-γ (A-11) is a mouse monoclonal antibody raised against amino acids 431-470 mapping near the C-terminus of PP2A-B56-γ of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

RESEARCH USE

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

APPLICATIONS

PP2A-B56-γ (A-11) is recommended for detection of PP2A-B56-γ of mouse, rat and human 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for PP2A-B56-γ siRNA (h): sc-45847, PP2A-B56-γ siRNA (m): sc-45848, PP2A-B56-γ shRNA Plasmid (h): sc-45847-SH, PP2A-B56-γ shRNA Plasmid (m): sc-45848-SH, PP2A-B56-γ shRNA (h) Lentiviral Particles: sc-45847-V and PP2A-B56-γ shRNA (m) Lentiviral Particles: sc-45848-V.

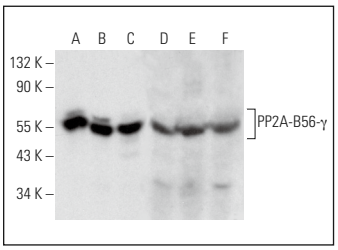
Molecular Weight of PP2A-B56-γ: 61 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, MDA-MB-231 cell lysate: sc-2232 or RAW 264.7 whole cell lysate: sc-2211.

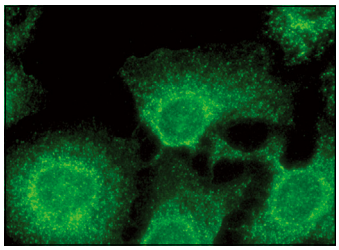
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



PP2A-B56-γ (A-11): sc-374379. Western blot analysis of PP2A-B56-γ expression in 293T (**A**), MDA-MB-231 (**B**), Jurkat (**C**), BYDP (**D**), RAW 264.7 (**E**) and 3611-RF (**F**) whole cell lysates.



PP2A-B56-γ (A-11): sc-374379. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear and cytoplasmic localization.

SELECT PRODUCT CITATIONS

1. Qiu, M., et al. 2014. MicroRNA-183 plays as oncogenes by increasing cell proliferation, migration and invasion via targeting protein phosphatase 2A in renal cancer cells. Biochem. Biophys. Res. Commun. 452: 163-169.
2. Vallardi, G., et al. 2019. Division of labour between PP2A-B56 isoforms at the centromere and kinetochore. Elife 8: e42619.
3. Yee, Y.H., et al. 2021. Sustained IKKβ phosphorylation and NFκB activation by superoxide-induced peroxynitrite-mediated nitrotyrosine modification of B56γ3 and PP2A inactivation. Redox Biol. 41: 101834.
4. Kucharski, T.J., et al. 2022. Small changes in phospho-occupancy at the kinetochore-microtubule interface drive mitotic fidelity. J. Cell Biol. 221: e202107107.

PROTOCOLS

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