SANTA CRUZ BIOTECHNOLOGY, INC.

CIP2A (2G10-3B5): sc-80659

BACKGROUND

Cancerous inhibitor of protein phosphatase 2A (CIP2A), also designated p90 autoantigen or KIAA1524, is a single-pass membrane protein that exhibits oncogenic activity. CIP2A is known to inhibit PP2A (protein phosphatase 2A) dephosphorylation of c-Myc, thereby stabilizing c-Myc (an oncogenic transcription factor) and promoting tumor formation and malignant cell growth. PP2A is a trimeric protein complex consisting of three subunits: a scaffold subunit, a catalytic subunit and a regulatory subunit. CIP2A specifically interacts with the catalytic subunit of PP2A to inhibit its activity. Inhibition of PP2A activity is a crucial step allowing for the progression of human cell transformation. Further supporting its role as an oncoprotein, CIP2A is known to be overexpressed in colon, gastric, and head and neck squamous cell carcinomas.

CHROMOSOMAL LOCATION

Genetic locus: KIAA1524 (human) mapping to 3q13.13.

SOURCE

CIP2A (2G10-3B5) is a mouse monoclonal antibody raised against C-terminal CIP2A 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.

CIP2A (2G10-3B5) is available conjugated to agarose (sc-80659 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-80659 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-80659 PE), fluorescein (sc-80659 FITC), Alexa Fluor® 488 (sc-80659 AF488), Alexa Fluor® 546 (sc-80659 AF546), Alexa Fluor® 594 (sc-80659 AF594) or Alexa Fluor® 647 (sc-80659 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-80659 AF680) or Alexa Fluor® 790 (sc-80659 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

CIP2A (2G10-3B5) is recommended for detection of CIP2A of 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 immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for CIP2A siRNA (h): sc-77964, CIP2A shRNA Plasmid (h): sc-77964-SH and CIP2A shRNA (h) Lentiviral Particles: sc-77964-V.

Molecular Weight of CIP2A: 90 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, K-562 whole cell lysate: sc-2203 or MDA-MB-231 cell lysate: sc-2232.

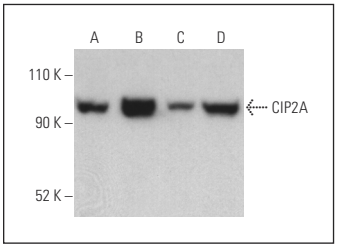
RESEARCH USE

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

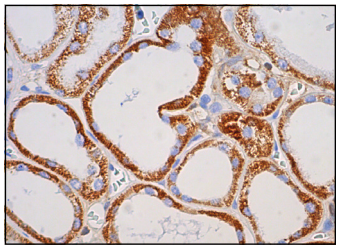
STORAGE

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

DATA



CIP2A (2G10-3B5): sc-80659. Western blot analysis of CIP2A expression in K-562 (**A**), MDA-MB-231 (**B**), HeLa (**C**) and Jurkat (**D**) whole cell lysates. Detection reagent used: m-IgG_{2b} BP-HRP: sc-542741.



CIP2A (2G10-3B5): sc-80659. Immunoperoxidase staining of formalin fixed, paraffin-embedded human kidney tissue showing cytoplasmic staining of cells in tubules.

SELECT PRODUCT CITATIONS

1. Hu, Z., et al. 2009. Synergy between proteasome inhibitors and imatinib mesylate in chronic myeloid leukemia. PLoS ONE 4: e6257.
2. Ventelä, S., et al. 2015. CIP2A is an Oct4 target gene involved in head and neck squamous cell cancer oncogenicity and radioresistance. Oncotarget 6: 144-158.
3. Gomes, L.R., et al. 2017. Chaperone-mediated autophagy prevents cellular transformation by regulating MYC proteasomal degradation. Autophagy 13: 928-940.
4. Jeong, A.L., et al. 2018. Oncoprotein CIP2A promotes the disassembly of primary cilia and inhibits glycolytic metabolism. EMBO Rep. 19: e45144.
5. Umesalma, S., et al. 2019. RABL6A inhibits tumor-suppressive PP2A/AKT signaling to drive pancreatic neuroendocrine tumor growth. J. Clin. Invest. 130: 1641-1653.
6. Endicott, S.J., et al. 2020. Inhibition of class I PI3K enhances chaperone-mediated autophagy. J. Cell Biol. 219: e202001031.
7. Holjencin, C.E., et al. 2021. Advancing peptide siRNA-carrier designs through L/D-amino acid stereochemical modifications to enhance gene silencing. Mol. Ther. Nucleic Acids 24: 462-476.
8. De Marco Zompit, M., et al. 2022. The CIP2A-TOPBP1 complex safeguards chromosomal stability during mitosis. Nat. Commun. 13: 4143.
9. Trivedi, P., et al. 2023. Mitotic tethering enables inheritance of shattered micronuclear chromosomes. Nature 618: 1049-1056.
10. Routila, E., et al. 2024. Identification of stemness-related glycosylation changes in head and neck squamous cell carcinoma. BMC Cancer 24: 443.

PROTOCOLS

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