

RB3 (B-11): sc-376829

BACKGROUND

Op18 (for oncoprotein 18, also designated Stathmin, prosolin or metablastin) is a conserved, Tubulin-associated, intracellular protein. It serves as a transducing protein, via phosphorylation, for a variety of cell signaling pathways and is involved in both mitosis and differentiation. Op18 is present in many cancers, including breast carcinoma and different leukemias. The neuronal growth-associated protein (nGAP) Stathmin-2, which shares sequence homology with the phosphoprotein Op18/Stathmin-1, is expressed in a variety of neural, immune and reproductive system cell types. Stathmin-2 gene expression is altered in age-related neurodegenerative diseases such as Alzheimer's disease. Stathmin-4 (also designated Stathmin-like protein B3 or RB3) is a Stathmin-like protein involved in the destabilization of microtubules, specifically in brain tissue. RB3 has a unique N-terminal membrane-associated domain and a Stathmin-like domain at the C-terminus. This C-terminal domain promotes microtubule destabilization and Tubulin sequestering.

REFERENCES

1. Nakao, C., et al. 2004. Modulation of the Stathmin-like microtubule destabilizing activity of RB3, a neuron-specific member of the SCG10 family, by its N-terminal domain. *J. Biol. Chem.* 279: 23014-23021.
2. Iancu-Rubin, C., et al. 2005. Stathmin prevents the transition from a normal to an endomitotic cell cycle during megakaryocytic differentiation. *Cell Cycle* 4: 1774-1782.

CHROMOSOMAL LOCATION

Genetic locus: STMN4 (human) mapping to 8p21.2; Stmn4 (mouse) mapping to 14 D1.

SOURCE

RB3 (B-11) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 61-95 within an internal region of RB3 of human origin.

PRODUCT

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

RB3 (B-11) is available conjugated to agarose (sc-376829 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-376829 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-376829 PE), fluorescein (sc-376829 FITC), Alexa Fluor® 488 (sc-376829 AF488), Alexa Fluor® 546 (sc-376829 AF546), Alexa Fluor® 594 (sc-376829 AF594) or Alexa Fluor® 647 (sc-376829 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-376829 AF680) or Alexa Fluor® 790 (sc-376829 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-376829 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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RESEARCH USE

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

APPLICATIONS

RB3 (B-11) is recommended for detection of RB3 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), 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).

Suitable for use as control antibody for RB3 siRNA (h): sc-40784, RB3 siRNA (m): sc-40785, RB3 shRNA Plasmid (h): sc-40784-SH, RB3 shRNA Plasmid (m): sc-40785-SH, RB3 shRNA (h) Lentiviral Particles: sc-40784-V and RB3 shRNA (m) Lentiviral Particles: sc-40785-V.

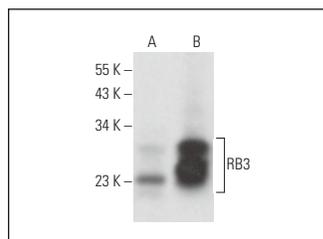
Molecular Weight of RB3: 29 kDa.

Positive Controls: mouse brain extract: sc-2253, Neuro-2A whole cell lysate: sc-364185 or rat brain extract: sc-2392.

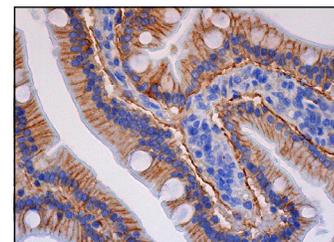
RECOMMENDED SUPPORT REAGENTS

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. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



RB3 (B-11): sc-376829. Western blot analysis of RB3 expression in Neuro-2A whole cell lysate (A) and rat brain tissue extract (B). Detection reagent used: m-IgGκ BP-HRP: sc-516102.



RB3 (B-11): sc-376829. Immunoperoxidase staining of formalin fixed, paraffin-embedded human duodenum tissue showing membrane staining of glandular cells.

SELECT PRODUCT CITATIONS

1. Tapias, A., et al. 2021. HAT cofactor TRRAP modulates microtubule dynamics via SP1 signaling to prevent neurodegeneration. *Elife* 10: e61531.

STORAGE

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