

# RB3 (C-9): sc-374209

## BACKGROUND

Op18 (for oncoprotein 18, also designated Stathmin, prosolin or metastasin) 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.
3. Shumyatsky, G.P., et al. 2005. Stathmin, a gene enriched in the amygdala, controls both learned and innate fear. *Cell* 123: 697-709.
4. Giampietro, C., et al. 2005. Stathmin expression modulates migratory properties of GN-11 neurons *in vitro*. *Endocrinology* 146: 1825-1834.

## CHROMOSOMAL LOCATION

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

## SOURCE

RB3 (C-9) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 171-189 at the C-terminus of RB3 of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>2b</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-374209 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

## 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

RB3 (C-9) 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) 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.

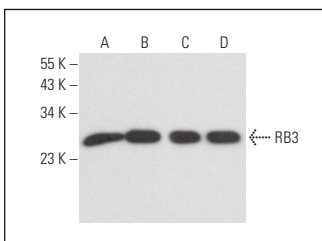
Molecular Weight of RB3: 29 kDa.

Positive Controls: IMR-32 cell lysate: sc-2409, SK-N-SH cell lysate: sc-2410 or Neuro-2A whole cell lysate: sc-364185.

## 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



RB3 (C-9): sc-374209. Western blot analysis of RB3 expression in IMR-32 (A), SK-N-SH (B), Neuro-2A (C) and C6 (D) whole cell lysates.

## SELECT PRODUCT CITATIONS

1. Liu, X., et al. 2015. Stathmin is a potential molecular marker and target for the treatment of gastric cancer. *Int. J. Clin. Exp. Med.* 8: 6502-6509.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.