

# BIN3 (Q-17): sc-87558

## BACKGROUND

BAR adaptor proteins primarily function to integrate signal transduction pathways that regulate nuclear processes, as well as the F-Actin cytoskeleton and overall membrane dynamics. BIN3 (bridging integrator 3) is a 253 amino acid cytoplasmic protein that contains a BAR domain and is found to be expressed in all tissues except for brain. The BAR domain functions to influence transcriptional repression, to sense or induce membrane curvature at endocytic sites and to bind to small GTPases. The gene encoding BIN3 is localized to a cancer suppressing region that is frequently found to be deleted in non-Hodgkin's lymphomas and several epithelial tumors. The yeast homolog of BIN3 has found to be involved in vesicle trafficking, cell polarity, cytokinesis and F-Actin organization. There are two isoforms of BIN3 that exist as a result of alternative slicing events.

## REFERENCES

1. Elliott, K., et al. 1999. BIN1 functionally interacts with Myc and inhibits cell proliferation via multiple mechanisms. *Oncogene* 18: 3564-3573.
2. Ge, K. and Prendergast, G.C. 2000. BIN2, a functionally nonredundant member of the BAR adaptor gene family. *Genomics* 67: 210-220.
3. Routhier, E.L., et al. 2001. Human BIN3 complements the F-Actin localization defects caused by loss of Hob3p, the fission yeast homolog of Rvs161p. *J. Biol. Chem.* 276: 21670-21677.
4. Habermann, B. 2004. The BAR-domain family of proteins: a case of bending and binding? *EMBO Rep.* 5: 250-255.
5. Peter, B.J., et al. 2004. BAR domains as sensors of membrane curvature: the amphiphysin BAR structure. *Science* 303: 495-499.
6. Ren, G., et al. 2006. The BAR domain proteins: molding membranes in fission, fusion, and phagy. *Microbiol. Mol. Biol. Rev.* 70: 37-120.
7. Coll, P.M., et al. 2007. Hob3p, the fission yeast ortholog of human BIN3, localizes Cdc42p to the division site and regulates cytokinesis. *EMBO J.* 26: 1865-1877.
8. Ramalingam, A., et al. 2008. BIN3 deletion causes cataracts and increased susceptibility to lymphoma during aging. *Cancer Res.* 68: 1683-1690.

## CHROMOSOMAL LOCATION

Genetic locus: BIN3 (human) mapping to 8p21.3; Bin3 (mouse) mapping to 14 D2.

## SOURCE

BIN3 (Q-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of BIN3 of human origin.

## 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.

## 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-87558 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

BIN3 (Q-17) is recommended for detection of BIN3 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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); non cross-reactive with BIN1.

BIN3 (Q-17) is also recommended for detection of BIN3 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for BIN3 siRNA (h): sc-77692, BIN3 siRNA (m): sc-141705, BIN3 shRNA Plasmid (h): sc-77692-SH, BIN3 shRNA Plasmid (m): sc-141705-SH, BIN3 shRNA (h) Lentiviral Particles: sc-77692-V and BIN3 shRNA (m) Lentiviral Particles: sc-141705-V.

Molecular Weight of BIN3: 31 kDa.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## PROTOCOLS

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