

## Bora (S-15): sc-84000

### BACKGROUND

Aurora related kinase-1 (ARK-1) is a centrosome-associated serine/threonine kinase that regulates centrosome separation, bipolar spindle assembly and chromosome segregation during mitosis. Bora (protein aurora borealis) is a 559 amino acid protein that activates ARK-1. Bora is localized to the nucleus until mitosis is initiated, when it then translocates to the cytoplasm. This translocation is dependent on activated Cdc2, which releases Bora to bind and activate ARK-1 in the cytoplasm. Plk (polo-like kinase) interacts with Bora to control the accessibility of its activation loop for phosphorylation and activation on its N-terminus by ARK-1. It is through this mechanism that Bora and ARK-1 control cellular mitotic entry. Downregulation of the gene encoding Bora results in multipolar spindles in mitosis, a phenomenon that is also observed when ARK-1 function is blocked.

### REFERENCES

1. Berdnik, D. and Knoblich, J.A. 2002. *Drosophila* Aurora A is required for centrosome maturation and Actin-dependent asymmetric protein localization during mitosis. *Curr. Biol.* 12: 640-647.
2. Online Mendelian Inheritance in Man, OMIM<sup>™</sup>. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 603072. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
3. Wiese, C. and O'Brien, L.L. 2006. What's so Bor(a)ing about Aurora A activation? *Dev. Cell* 11: 133-134.
4. Hutterer, A., Berdnik, D., Wirtz-Peitz, F., Zigman, M., Schleiffer, A. and Knoblich, J.A. 2006. Mitotic activation of the kinase Aurora A requires its binding partner Bora. *Dev. Cell* 11: 147-157.
5. Fu, J., Bian, M., Jiang, Q. and Zhang, C. 2007. Roles of Aurora kinases in mitosis and tumorigenesis. *Mol. Cancer Res.* 5: 1-10.
6. Seki, A., Coppinger, J.A., Jang, C.Y., Yates, J.R. and Fang, G. 2008. Bora and the kinase Aurora A cooperatively activate the kinase Plk1 and control mitotic entry. *Science* 320: 1655-1658.

### CHROMOSOMAL LOCATION

Genetic locus: BORA (human) mapping to 13q22.1; 6720463M24Rik (mouse) mapping to 14 E2.2.

### SOURCE

Bora (S-15) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping within an internal region of Bora of human origin.

### PRODUCT

Each vial contains 100 µg/ml IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-84000 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

### STORAGE

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

### APPLICATIONS

Bora (S-15) is recommended for detection of Bora 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).

Bora (S-15) is also recommended for detection of Bora in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for Bora siRNA (h): sc-105124, Bora siRNA (m): sc-141728, Bora shRNA Plasmid (h): sc-105124-SH, Bora shRNA Plasmid (m): sc-141728-SH, Bora shRNA (h) Lentiviral Particles: sc-105124-V and Bora shRNA (m) Lentiviral Particles: sc-141728-V.

Molecular Weight of Bora: 64 kDa.

### RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker<sup>™</sup> compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker<sup>™</sup> Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz<sup>™</sup> Mounting Medium: sc-24941.

### RESEARCH USE

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

### PROTOCOLS

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