

Bora (H-4): sc-393741

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™. 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., et al. 2006. Mitotic activation of the kinase Aurora A requires its binding partner Bora. *Dev. Cell* 11: 147-157.
5. Fu, J., et al. 2007. Roles of Aurora kinases in mitosis and tumorigenesis. *Mol. Cancer Res.* 5: 1-10.

CHROMOSOMAL LOCATION

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

SOURCE

Bora (H-4) is a mouse monoclonal antibody raised against amino acids 1-187 mapping at the N-terminus of Bora of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Bora (H-4) is available conjugated to agarose (sc-393741 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-393741 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-393741 PE), fluorescein (sc-393741 FITC), Alexa Fluor® 488 (sc-393741 AF488), Alexa Fluor® 546 (sc-393741 AF546), Alexa Fluor® 594 (sc-393741 AF594) or Alexa Fluor® 647 (sc-393741 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-393741 AF680) or Alexa Fluor® 790 (sc-393741 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

Bora (H-4) is recommended for detection of Bora 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 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.

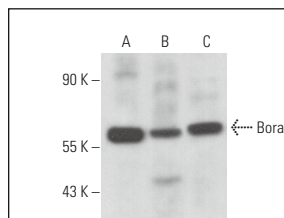
Molecular Weight of Bora: 64 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, KNRK whole cell lysate: sc-2214 or Ramos cell lysate: sc-2216.

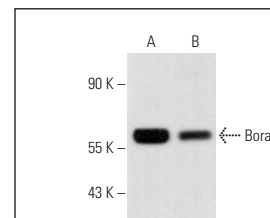
RECOMMENDED SUPPORT REAGENTS

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



Bora (H-4): sc-393741. Western blot analysis of Bora expression in Y79 (A), NIH/3T3 (B) and KNRK (C) whole cell lysates.



Bora (H-4): sc-393741. Western blot analysis of Bora expression in Jurkat (A) and Ramos (B) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Tavernier, N., et al. 2021. Bora phosphorylation substitutes in trans for T-loop phosphorylation in Aurora A to promote mitotic entry. *Nat. Commun.* 12: 1899.

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.