SANTA CRUZ BIOTECHNOLOGY, INC.

ARK-2 (13E8A7): sc-65987

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Aurora related kinase-1 (ARK-1, STK15, Aurora2, Aik1) and -2 (ARK-2, STK12, Aurora1) are centrosome-associated serine/threonine kinases that regulate centrosome separation, bipolar spindle assembly and chromosome segregation during mitosis. ARK-1 and -2 are expressed in the nucleus and localize to distinct portions of mitotic machinery such as the centrosome, spindle poles (ARK-1) and midbody (ARK-2) during mitosis. ARK-1 and -2 transcripts are present at high levels in human thymus and fetal liver. ARK-1 protein has elevated expression in colon carcinoma lines (HT-29, SNU-C2B, COLO 205, SW480, 837 and 948) and accumulates during metaphase in HeLa cells. ARK-2 protein levels are maximal during both S and G_2/M phases, whereas ARK-1 protein is degraded after G_2/M via the ubiquitin-proteasome pathway. ARK-2 has a unique genetic locus relative to ARK-1, suggesting that these two kinases, with oncogenic potential, have different roles in cell cycle progression.

REFERENCES

1. Bischoff, J.R., et al. 1998. A homologue of *Drosophila* aurora kinase is oncogenic and amplified in human colorectal cancers. EMBO J. 17: 3052-3065.
2. Kimura, M., et al. 1998. Identification and characterization of STK12/Aik2: a human gene related to Aurora of *Drosophila* and yeast IPL1. Cytogenet. Cell Genet. 82: 147-152.
3. Zhou, H., et al. 1998. Tumour amplified kinase STK15/BTAK induces centrosome amplification, aneuploidy and transformation. Nat. Genet. 20: 189-193.
4. Shindo, M., et al. 1998. cDNA cloning, expression, subcellular localization, and chromosomal assignment of mammalian Aurora homologues, Aurora related kinase (ARK)-1 and -2. Biochem. Biophys. Res. Commun. 244: 285-292.
5. Giet, R. and Prigent, C. 1999. Aurora/Ipl1p-related kinases, a new oncogenic family of mitotic serine-threonine kinases. J. Cell Sci. 112: 3591-3601.
6. Farruggio, D.C., et al. 1999. Cdc20 associates with the kinase. Proc. Natl. Acad. Sci. USA 96: 7306-7311.
7. Honda, K., et al. 2000. Degradation of human Aurora2 protein kinase by the anaphase-promoting complex-ubiquitin-proteasome pathway. Oncogene 19: 2812-2819.

CHROMOSOMAL LOCATION

Genetic locus: AURKB (human) mapping to 17p13.1; Aurkb (mouse) mapping to 11 B3.

SOURCE

ARK-2 (13E8A7) is a mouse monoclonal antibody raised against purified truncated recombinant ARK-2 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

ARK-2 (13E8A7) is recommended for detection of ARK-2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)].

Suitable for use as control antibody for ARK-2 siRNA (h): sc-43531, ARK-2 siRNA (m): sc-43532, ARK-2 shRNA Plasmid (h): sc-43531-SH, ARK-2 shRNA Plasmid (m): sc-43532-SH, ARK-2 shRNA (h) Lentiviral Particles: sc-43531-V and ARK-2 shRNA (m) Lentiviral Particles: sc-43532-V.

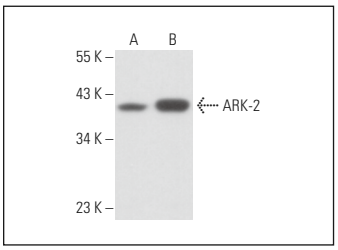
Molecular Weight of ARK-2: 39 kDa.

Positive Controls: SK-N-SH cell lysate: sc-2410, HCT-116 whole cell lysate: sc-364175 or NIH/3T3 whole cell lysate: sc-2210.

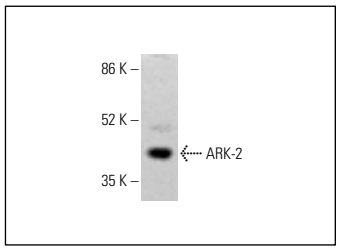
RECOMMENDED SUPPORT REAGENTS

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).

DATA



ARK-2 (13E8A7): sc-65987. Western blot analysis of ARK-2 expression in SK-N-SH (**A**) and NIH/3T3 (**B**) whole cell lysates.



ARK-2 (13E8A7): sc-65987. Western blot analysis of ARK-2 expression in HCT-116 whole cell lysate. Detection reagent used: m-IgG Fc BP-HRP: sc-525409.

SELECT PRODUCT CITATIONS

1. Xu, P., et al. 2013. BUBR1 recruits PP2A via the B56 family of targeting subunits to promote chromosome congression. Biol. Open 2: 479-486.
2. Kitagawa, M., et al. 2013. Targeting Aurora B to the equatorial cortex by MKlp2 is required for cytokinesis. PLoS ONE 8: e64826.
3. Chen, B., et al. 2020. The long noncoding RNA CCAT2 induces chromosomal instability through BOP1-AURKB signaling. Gastroenterology 159: 2146-2162.e33.

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.