

ARK-2 (A-3): sc-393357

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 G₂/M phases, whereas ARK-1 protein is degraded after G₂/M via the ubiquitin-proteasome pathway. ARK-2 has a unique genetic loci 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. Zhou, H., et al. 1998. Tumour amplified kinase STK15/BTAK induces centrosome amplification, aneuploidy and transformation. *Nat. Genet.* 20: 189-193.
3. 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.

CHROMOSOMAL LOCATION

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

SOURCE

ARK-2 (A-3) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 48-79 within an internal region of ARK-2 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

ARK-2 (A-3) is available conjugated to agarose (sc-393357 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-393357 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-393357 PE), fluorescein (sc-393357 FITC), Alexa Fluor® 488 (sc-393357 AF488), Alexa Fluor® 546 (sc-393357 AF546), Alexa Fluor® 594 (sc-393357 AF594) or Alexa Fluor® 647 (sc-393357 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-393357 AF680) or Alexa Fluor® 790 (sc-393357 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-393357 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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APPLICATIONS

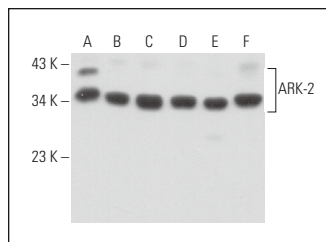
ARK-2 (A-3) is recommended for detection of ARK-2 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

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

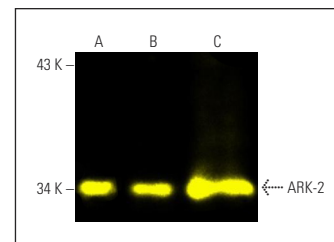
Molecular Weight of ARK-2: 39 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203, SK-N-SH cell lysate: sc-2410 or RAW 264.7 whole cell lysate: sc-2211.

DATA



ARK-2 (A-3): sc-393357. Western blot analysis of ARK-2 expression in K-562 (A), SK-N-SH (B), NIH/3T3 (C), RAW 264.7 (D), SP2/O (E) and IB4 (F) whole cell lysates.



ARK-2 (A-3) Alexa Fluor® 488: sc-393357 AF488. Direct fluorescent western blot analysis of ARK-2 expression in NIH/3T3 (A), RAW 264.7 (B) and SP2/O (C) whole cell lysates. Blocked with UltraCruz® Blocking Reagent: sc-516214.

SELECT PRODUCT CITATIONS

1. Juhlen, R., et al. 2018. Triple A patient cells suffering from mitotic defects fail to localize PGRMC1 to mitotic kinetochore fibers. *Cell Div.* 13: 8.
2. Shimoi, G., et al. 2021. Effects of post-ovulatory aging on centromeric cohesin protection in murine MII oocytes. *Reprod. Med. Biol.* E-published.
3. Xu, C., et al. 2022. Combined HASPIN and mTOR inhibition is synergistic against KRAS-driven carcinomas. *Transl. Oncol.* 26: 101540.

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.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.