

ARK-1 (C-1): sc-398814



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 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: AURKA (human) mapping to 20q13.2.

SOURCE

ARK-1 (C-1) is a mouse monoclonal antibody raised against amino acids 1-130 mapping at the N-terminus of ARK-1 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.

ARK-1 (C-1) is available conjugated to agarose (sc-398814 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-398814 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-398814 PE), fluorescein (sc-398814 FITC), Alexa Fluor® 488 (sc-398814 AF488), Alexa Fluor® 546 (sc-398814 AF546), Alexa Fluor® 594 (sc-398814 AF594) or Alexa Fluor® 647 (sc-398814 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-398814 AF680) or Alexa Fluor® 790 (sc-398814 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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STORAGE

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

APPLICATIONS

ARK-1 (C-1) is recommended for detection of ARK-1 of 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), immunohistochemistry (including paraffin-embedded sections) (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-1 siRNA (h): sc-29731, ARK-1 shRNA Plasmid (h): sc-29731-SH and ARK-1 shRNA (h) Lentiviral Particles: sc-29731-V.

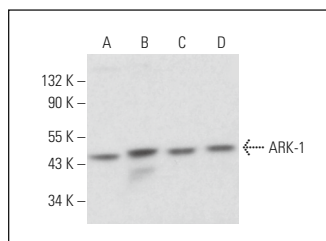
Molecular Weight of ARK-1: 46 kDa.

Positive Controls: Caco-2 cell lysate: sc-2262, HeLa whole cell lysate: sc-2200 or TF-1 cell lysate: sc-2412.

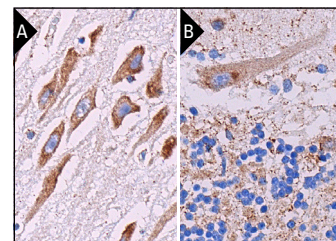
RECOMMENDED SUPPORT REAGENTS

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. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



ARK-1 (C-1): sc-398814. Western blot analysis of ARK-1 expression in HeLa (A), Caco-2 (B), TF-1 (C) and A-431 (D) whole cell lysates.



ARK-1 (C-1): sc-398814. Immunoperoxidase staining of formalin fixed, paraffin-embedded human hippocampus tissue showing cytoplasmic staining of neuronal cells (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human cerebellum tissue showing cytoplasmic staining of Purkinje cells (B).

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.

RESEARCH USE

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