

ARK-1 (35C1): sc-56881

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 locus relative to ARK-1, suggesting that these two kinases, with oncogenic potential, have different roles in cell cycle progression.

CHROMOSOMAL LOCATION

Genetic locus: AURKA (human) mapping to 20q13.2; Aurka (mouse) mapping to 2 H3.

SOURCE

ARK-1 (35C1) is a mouse monoclonal antibody raised against full length ARK-1 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-1 (35C1) is available conjugated to agarose (sc-56881 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-56881 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-56881 PE), fluorescein (sc-56881 FITC), Alexa Fluor® 488 (sc-56881 AF488), Alexa Fluor® 546 (sc-56881 AF546), Alexa Fluor® 594 (sc-56881 AF594) or Alexa Fluor® 647 (sc-56881 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-56881 AF680) or Alexa Fluor® 790 (sc-56881 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

ARK-1 (35C1) is recommended for detection of ARK-1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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-1 siRNA (h): sc-29731, ARK-1 siRNA (m): sc-29732, ARK-1 shRNA Plasmid (h): sc-29731-SH, ARK-1 shRNA Plasmid (m): sc-29732-SH, ARK-1 shRNA (h) Lentiviral Particles: sc-29731-V and ARK-1 shRNA (m) Lentiviral Particles: sc-29732-V.

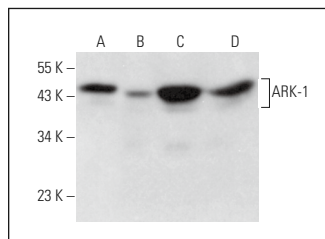
Molecular Weight of ARK-1: 46 kDa.

Positive Controls: M1 whole cell lysate: sc-364782, RAW 264.7 whole cell lysate: sc-2211 or NTERA-2 cl.D1 whole cell lysate: sc-364181.

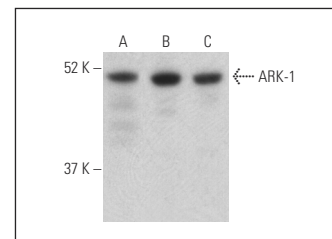
STORAGE

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

DATA



ARK-1 (35C1): sc-56881. Western blot analysis of ARK-1 expression in NTERA-2 cl.D1 (A), AMJ2-C8 (B), WEHI-231 (C) and RAW 264.7 (D) whole cell lysates.



ARK-1 (35C1): sc-56881. Western blot analysis of ARK-1 expression in NTERA-2 cl.D1 (A), M1 (B) and AMJ2-C8 (C) whole cell lysates. Detection reagent used: m-IgG Fc BP-HRP: sc-525409.

SELECT PRODUCT CITATIONS

- Kosla, K., et al. 2014. WWOX modulates the gene expression profile in the T98G glioblastoma cell line rendering its phenotype less malignant. *Oncol. Rep.* 32: 1362-1368.
- Ma, J. and Chen, K. 2017. Modulated self-reversed magnetic hysteresis in iron oxides. *Sci. Rep.* 7: 42312.
- Román, M., et al. 2019. Inhibitor of differentiation-1 sustains mutant KRAS-driven progression, maintenance, and metastasis of lung adenocarcinoma via regulation of a FOSL1 network. *Cancer Res.* 79: 625-638.
- Wang, X., et al. 2020. Targeting RNA helicase DHX33 blocks Ras-driven lung tumorigenesis *in vivo*. *Cancer Sci.* 111: 3564-3575.
- Yin, M., et al. 2021. HNRNPA2B1 as a trigger of RNA switch modulates the miRNA-mediated regulation of CDK6. *iScience* 24: 103345.
- Kang, M.J., et al. 2022. Phospholipase D1 promotes astrocytic differentiation through the FAK/AURKA/STAT3 signaling pathway in hippocampal neural stem/progenitor cells. *Biochim. Biophys. Acta Mol. Cell Res.* 1869: 119361.
- Fang, Z., et al. 2023. Aurora A polyubiquitinates the BRCA1-interacting protein OLA1 to promote centrosome maturation. *Cell Rep.* 42: 112850.
- Gao, Z., et al. 2023. Iron deficiency in hepatocellular carcinoma cells induced sorafenib resistance by upregulating HIF-1α to inhibit apoptosis. *Biomed. Pharmacother.* 163: 114750.
- Shao, Y., et al. 2023. The feedback loop of AURKA/DDX5/TMEM147-AS1/let-7 drives lipophagy to induce cisplatin resistance in epithelial ovarian cancer. *Cancer Lett.* 565: 216241.
- Brümele, B., et al. 2024. Cross-reactivity of N6AMT1 antibodies with aurora kinase A: an example of antibody-specific non-specificity. *Antibodies* 13: 33.

RESEARCH USE

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