SANTA CRUZ BIOTECHNOLOGY, INC.

ARK-1 (35C1): sc-56881

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.

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.

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.

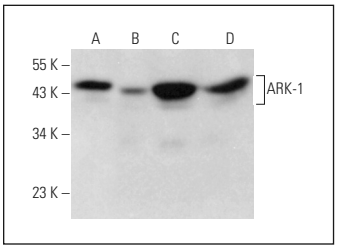
Molecular Weight of ARK-1: 46 kDa.

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.

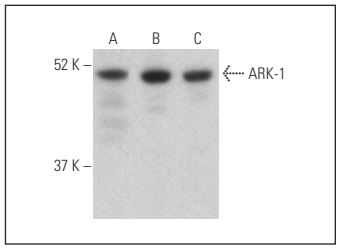
STORAGE

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

1. 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.
2. Ma, J. and Chen, K. 2017. Modulated self-reversed magnetic hysteresis in iron oxides. Sci. Rep. 7: 42312.
3. Vallejo, A., et al. 2017. An integrative approach unveils FOSL1 as an oncogene vulnerability in KRAS-driven lung and pancreatic cancer. Nat. Commun. 8: 14294.
4. Román, M., et al. 2019. Inhibitor of differentiation-1 dustains mutant KRAS-driven progression, maintenance, and metastasis of lung adenocarcinoma via regulation of a FOSL1 network. Cancer Res. 79: 625-638.
5. Wang, X., et al. 2020. Targeting RNA helicase DHX33 blocks Ras-driven lung tumorigenesis *in vivo*. Cancer Sci. 111: 3564-3575.
6. Vallejo, A., et al. 2021. FOSL1 promotes cholangiocarcinoma via transcriptional effectors that could be therapeutically targeted. J. Hepatol. 75: 363-376.
7. Yin, M., et al. 2021. HNRNPA2B1 as a trigger of RNA switch modulates the miRNA-mediated regulation of CDK6. iScience 24: 103345.
8. 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.

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.