

ARK-1 (L-18): sc-14322

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.

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. Genetics* 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.
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., et al. 1999. Aurora/Ipl1p-related kinases, a new oncogenic family of mitotic serine-threonine kinases. *J. Cell Sci.* 112: 3591-3601.

CHROMOSOMAL LOCATION

Genetic locus: Aurka (mouse) mapping to 2 H3.

SOURCE

ARK-1 (L-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of ARK-1 of mouse origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-14322 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

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 (L-18) is recommended for detection of ARK-1 of mouse and rat 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 (m): sc-29732, ARK-1 shRNA Plasmid (m): sc-29732-SH and ARK-1 shRNA (m) Lentiviral Particles: sc-29732-V.

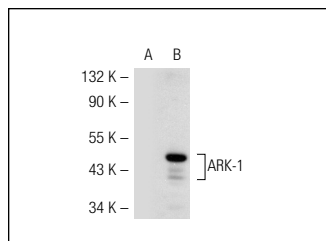
Molecular Weight of ARK-1: 45.9 kDa.

Positive Controls: mouse testis extract: sc-2405 or ARK-1 (m2): 293T Lysate: sc-126439.

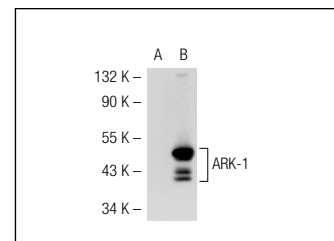
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



ARK-1 (L-18): sc-14322. Western blot analysis of ARK-1 expression in non-transfected: sc-117752 (A) and mouse ARK-1 transfected: sc-126438 (B) 293T whole cell lysates.



ARK-1 (L-18): sc-14322. Western blot analysis of ARK-1 expression in non-transfected: sc-117752 (A) and mouse ARK-1 transfected: sc-126439 (B) 293T whole cell lysates.

RESEARCH USE

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

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Try **ARK-1 (35C1): sc-56881**, our highly recommended monoclonal alternative to ARK-1 (L-18).