

# ARK-1 (7F12): sc-81441

## 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<sub>2</sub>/M phases, whereas ARK-1 protein is degraded after G<sub>2</sub>/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.
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. Farruggio, D.C., et al. 1999. Cdc20 associates with the kinase Aurora2/Aik. *Proc. Natl. Acad. Sci. USA* 96: 7306-7311.
6. Giet, R. and Prigent, C. 1999. Aurora/Ipl1p-related kinases, a new oncogenic family of mitotic serine-threonine kinases. *J. Cell Sci.* 112: 3591-3601.

## CHROMOSOMAL LOCATION

Genetic locus: STK6 (human) mapping to 20q13.3; Stk6 (mouse) mapping to 2 H3.

## SOURCE

ARK-1 (7F12) is a mouse monoclonal antibody raised against the N-terminus of ARK-1 of human origin.

## STORAGE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.

## PRODUCT

Each vial contains 50 µg IgG<sub>1</sub> in 500 µl PBS with < 0.1% sodium azide, 1% gelatin, PEG and sucrose.

## APPLICATIONS

ARK-1 (7F12) 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) and immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)].

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.

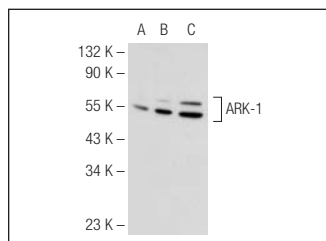
Molecular Weight of ARK-1: 45.9 kDa.

Positive Controls: ARK-1 (h2): 293T Lysate: sc-114547, ARK-1 (m): 293T Lysate: sc-126438 or mouse testis extract: sc-2405.

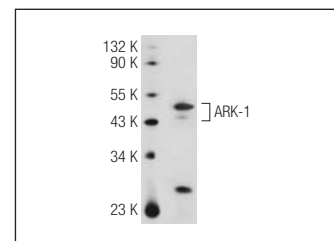
## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-mouse IgG-HRP: sc-2005 (dilution range: 1:2000-1:32,000) or Cruz Marker™ compatible goat anti-mouse IgG-HRP: sc-2031 (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).

## DATA



ARK-1 (7F12): sc-81441. Western blot analysis of ARK-1 expression in non-transfected 293T: sc-117752 (A), mouse ARK-1 transfected 293T: sc-126438 (B) and NTERA-2 cl.D1 (C) whole cell lysates.



ARK-1 (7F12): sc-81441. Western blot analysis of ARK-1 expression in HeLa whole cell lysate.

## RESEARCH USE

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