SANTA CRUZ BIOTECHNOLOGY, INC.

p-ARK-2 (66.Thr 232): sc-293127

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

ARK-1 (aurora related kinase-1) and ARK-2 (aurora related kinase 2) 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-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 loci relative to ARK-1, suggesting that these two kinases, with oncogenic potential, have different roles in cell cycle progression. ARK-2 is phosphorylated on Threonine 232 as a result of autocatalysis.

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. Giet, R., et al. 1999. Aurora/Ipl1p-related kinases, a new oncogenic family of mitotic serine-threonine kinases. J. Cell Sci. 112: 3591-3601.
6. Farruggio, D.C., et al. 1999. Cdc20 associates with the kinase. Proc. Natl. Acad. Sci. USA 96: 7306-7311.

CHROMOSOMAL LOCATION

Genetic locus: AURKB (human) mapping to 17p13.1; Aurkb (mouse) mapping to 11 B3.

SOURCE

p-ARK-2 (66.Thr 232) is a mouse monoclonal antibody raised against a short amino acid sequence containing Thr 232 phosphorylated ARK-2 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.

STORAGE

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

APPLICATIONS

p-ARK-2 (66.Thr 232) is recommended for detection of Thr 232 phosphorylated ARK-2 of human origin, correspondingly Thr 237 phosphorylated ARK-2 of mouse origin and correspondingly Thr 235 phosphorylated ARK-2 of 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)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

p-ARK-2 (66.Thr 232) is also recommended for detection of Thr 232 phosphorylated ARK-2 in additional species, including porcine.

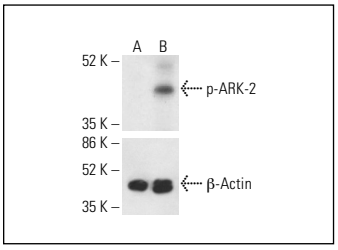
Suitable for use as control antibody for ARK-2 siRNA (h): sc-43531, ARK-2 siRNA (m): sc-43532, ARK-2 shRNA Plasmid (h): sc-43531-SH, ARK-2 shRNA Plasmid (m): sc-43532-SH, ARK-2 shRNA (h) Lentiviral Particles: sc-43531-V and ARK-2 shRNA (m) Lentiviral Particles: sc-43532-V.

Molecular Weight of p-ARK-2: 39 kDa.

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, TBS Blotto B Blocking Reagent: sc-2335 (use 50 mM NaF, sc-24988, as diluent), Lambda Phosphatase: sc-200312A 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



p-ARK-2 (66.Thr 232): sc-293127. Western blot analysis of ARK-2 phosphorylation in untreated (**A**) and chemically-treated (**B**) Jurkat whole cell lysates. Detection reagent used: m-IgG_{2b} BP-HRP: sc-542741. β-Actin (C4): sc-47778 used as loading control. Detection reagent used: m-IgG Fc BP-HRP: sc-525409.

SELECT PRODUCT CITATIONS

1. Ryu, J. and Kim, J.E. 2022. CCAR2 controls mitotic progression through spatiotemporal regulation of Aurora B. Cell Death Dis. 13: 534.
2. Ryu, J., et al. 2023. Urban dust particles disrupt mitotic progression by dysregulating Aurora kinase B-related functions. J. Hazard. Mater. 459: 132238.

RESEARCH USE

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