

#4458 Store at -20°C

ARK5 Antibody

✓ 100 µl
(10 western blots)

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This product is intended for research purposes only. This product is not intended to be used for therapeutic or diagnostic purposes in humans or animals.

Applications	Species Cross-Reactivity*	Molecular Wt.	Source
W Endogenous	H, M, R, Mk, (B)	78 kDa	Rabbit**

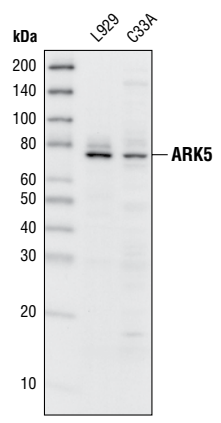
Background: AMP-activated protein kinases (AMPKs) constitute a serine/threonine protein kinase family, which is highly conserved from yeast to plants and animals and plays a key role in the regulation of energy homeostasis (1). AMPK α 1, AMPK α 2, MELK and SNARK are the catalytic subunits in the family (2). Recently, AMPK-related protein kinase ARK5 was identified, which shares 84% similarity with the sequence of the catalytic domain of SNARK (2). *In vitro*, Akt phosphorylates ARK5 at Ser600. This phosphorylation activates ARK5, which in turn results in the increased phosphorylation of the SAMS peptide, an AMPK consensus substrate (2). *In vivo* experiments showed that Akt-activated ARK5 is critical for the survival of cells under glucose starvation (2). Furthermore, studies also linked ARK5 to tumor invasion (3,4). Overexpressed ARK5 leads to higher tumor growth rate (3). For example, the overexpression of ARK5 in pancreatic tumor cell line PANC-1 significantly elevates its metastasis in the liver (4).

Specificity/Sensitivity: ARK5 Antibody detects endogenous levels of total ARK5 protein.

Source/Purification: Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to the sequence of human ARK5. Antibodies are purified by protein A and peptide affinity chromatography.

Background References:

- (1) Hardie, D.G. (2004) *J. Cell Sci.* 117, 5479–5487.
- (2) Suzuki, A. et al. (2003) *J. Biol. Chem.* 278, 48–53.
- (3) Suzuki, A. et al. (2004) *Mol. Cell Biol.* 24, 3526–3535.
- (4) Kusakai, G. et al. (2004) *J. Exp. Clin. Cancer Res.* 23, 263–268.



Western blot analysis of extracts from L929 and C33A cells, using ARK5 Antibody.

Entrez-Gene ID #9891
Swiss-Prot Acc. #O60285

Storage: Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at -20°C. Do not aliquot the antibody.

Recommended Antibody Dilutions:
Western blotting 1:1000

For application specific protocols please see the web page for this product at www.cellsignal.com.

Please visit www.cellsignal.com for a complete listing of recommended companion products.

IMPORTANT: For western blots, incubate membrane with diluted antibody in 5% w/v BSA, 1X TBS, 0.1% Tween-20 at 4°C with gentle shaking, overnight.

Applications Key: W—Western IP—Immunoprecipitation IHC—Immunohistochemistry ChIP—Chromatin Immunoprecipitation IF—Immunofluorescence F—Flow cytometry E-P—ELISA-Peptide

Species Cross-Reactivity Key: H—human M—mouse R—rat Hm—hamster Mk—monkey Mi—mink C—chicken Dm—D. melanogaster X—Xenopus Z—zebrafish B—bovine

Dg—dog Pg—pig Sc—S. cerevisiae Ce—C. elegans Hr—horse All—all species expected Species enclosed in parentheses are predicted to react based on 100% homology.