CELL APPLICATIONS, INC.

AMPK-alpha 1 Antibody

Cat. No. CG1009

Applications:	**WB, IHC, ELISA**
Detected MW:	**65 kDa**
Species & Reactivity:	**Human, Mouse, Rat**
Isotype:	**Rabbit IgG**

BACKGROUND

AMPK is a serine/threonine protein kinase, which serves as an energy sensor in all eukaryotic cell types. Mammalian AMPK is a trimeric enzyme comprising a catalytic alpha subunit (63 kDa) and non-catalytic beta and gamma subunits. Multiple isoforms of each mammalian enzyme exist (alpha-1, alpha-2, beta-1, beta-2, gamma-1, gamma-2, and gamma-3); each encoded by a different gene.[1] AMPK activation strongly suppresses cell proliferation in non-malignant cells as well as in tumor cells. These actions of AMPK appear to be mediated through multiple mechanisms including regulation of the cell cycle and inhibition of protein synthesis, de novo fatty acid synthesis, specifically the generation of mevalonate as well as other products downstream of mevalonate in the cholesterol synthesis pathway.[2] Cell cycle regulation by AMPK is mediated by up-regulation of the p53–p21 axis as well as regulation of TSC2–mTOR (mammalian target of rapamycin) pathway.[3] The AMPK signalling network contains a number of tumour suppressor genes including LKB1, p53, TSC1 and TSC2, and overcomes growth factor signaling from a variety of stimuli (via growth factors and by abnormal regulation of cellular proto-oncogenes including PI3K, Akt and ERK). These observations suggest that AMPK activation is a logical therapeutic target for diseases rooted in cellular proliferation, including atherosclerosis and cancer.

References:
1. Kemp, B.E. et al: Structure 15:1161-1163, 2007
2. Zhang, B.B. et al: Cell Metabol. 9:407-416, 2009
3. Thoreen, C. & Sabatini, D.: Cell Metabol. 1:287-288, 2005

TECHNICAL INFORMATION

Source:
AMPK-alpha 1 Antibody is a rabbit antibody raised against a short peptide from carboxyl-terminal sequence of human AMPK-alpha 1 subunit.

Specificity and Sensitivity:
This antibody detects endogenous levels of AMPK-alpha 1 proteins in normal cell lysates without cross-reactivity with other family members.

Storage Buffer: Anti-AMPK α Antibody detects endogenous levels of total AMPK α protein.

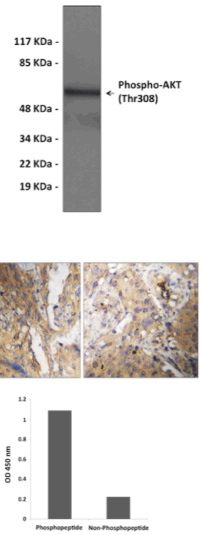
Storage:
Store at -20°C for at least one year. Store at 4°C for frequent use. Avoid repeated freeze-thaw cycles.

APPLICATIONS

Application:	*Dilution:
WB	1:500-1:1000
IP	n/d
IHC	1:50-1:100
ICC	n/d
FACS	n/d
ELISA	1:10000

*****Optimal dilutions must be determined by end user.*

QUALITY CONTROL DATA



Top: Western blot analysis of extracts from HEK 293 cells treated with Insulin.
Middle: Immunohistochemistry analysis of paraffin-embedded Human brain gliomas (left) and Human kidney carcinoma (right).
Bottom: ELISA for Immunogen Phosphopeptide (left) and Non-Phosphopeptide (right).

Produced using Abcam's RabMAb® technology. RabMAb® technology is covered by the following U.S. Patents, No. 5,675,063 and/or 7,429,487.