

phospho-AMPK alpha 1 (Thr183) + AMPK alpha 2 (Thr172) Rabbit pAb

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Catalog # AP94123

Product Information

| | |
|---|---|
| Application | IHC-P, IHC-F, IF |
| Reactivity | Human, Mouse |
| Predicted | Rat, Chicken, Dog, Pig, Horse, Rabbit, Sheep |
| Host | Rabbit |
| Clonality | Polyclonal |
| Calculated MW | 63 KDa |
| Physical State | Liquid |
| Immunogen | KLH conjugated Synthesised phosphopeptide derived from human AMPK alpha 1 around the phosphorylation site of Thr183 |
| Epitope Specificity | LR(p-T)SC |
| Isotype | IgG |
| Purity | affinity purified by Protein A |
| Buffer | 0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol. |
| SUBCELLULAR LOCATION | Cytoplasm. Nucleus. Note=In response to stress, recruited by p53/TP53 to specific promoters. |
| SIMILARITY | Belongs to the protein kinase superfamily. CAMK Ser/Thr protein kinase family. SNF1 subfamily. Contains 1 protein kinase domain. |
| SUBUNIT | AMPK is a heterotrimer of an alpha catalytic subunit (PRKAA1 or PRKAA2), a beta (PRKAB1 or PRKAB2) and a gamma non-catalytic subunits (PRKAG1, PRKAG2 or PRKAG3). Interacts with FNIP1 and FNIP2. |
| Post-translational modifications | Ubiquitinated. Phosphorylated at Thr-183 by STK11/LKB1 in complex with STE20-related adapter-alpha (STRADA) pseudo kinase and CAB39. Also phosphorylated at Thr-183 by CAMKK2; triggered by a rise in intracellular calcium ions, without detectable changes in the AMP/ATP ratio. CAMKK1 can also phosphorylate Thr-183, but at much lower level. Dephosphorylated by protein phosphatase 2A and 2C (PP2A and PP2C). Phosphorylated by ULK1 and ULK2; leading to negatively regulate AMPK activity and suggesting the existence of a regulatory feedback loop between ULK1, ULK2 and AMPK. |
| DISEASE | Defects in CRYAB are the cause of myofibrillar alpha-B crystallin-related (MFM-CRYAB) [MIM:608810]. A neuromuscular disorder that results in weakness of the proximal and distal limb muscles, weakness of the neck, velopharynx and trunk muscles, hypertrophic cardiomyopathy, and cataract in a subset of patients. |
| Important Note | This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications. |
| Background Descriptions | The protein encoded by this gene belongs to the ser/thr protein kinase family. It is the catalytic subunit of the 5'-prime-AMP-activated protein kinase (AMPK). AMPK is a cellular energy sensor conserved in all eukaryotic cells. The kinase activity of AMPK is activated by the stimuli that increase the cellular AMP/ATP ratio. AMPK regulates the activities of a number of key metabolic enzymes through phosphorylation. It protects cells from stresses that cause ATP |

depletion by switching off ATP-consuming biosynthetic pathways. Alternatively spliced transcript variants encoding distinct isoforms have been observed. [provided by RefSeq, Jul 2008]

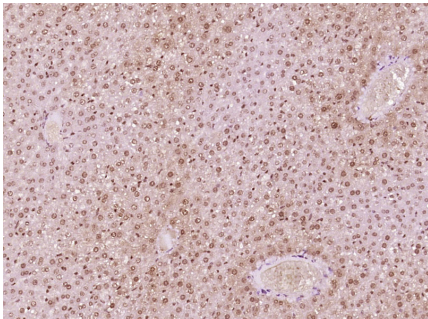
Additional Information

| | |
|---------------------------|---|
| Target/Specificity | Lens as well as other tissues. |
| Dilution | IHC-P=1:100-500,IHC-F=1:100-500,IF=1:100-500 |
| Storage | Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C. |

Background

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Images



Paraformaldehyde-fixed, paraffin embedded (Mouse liver); Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15min; Block endogenous peroxidase by 3% hydrogen peroxide for 20 minutes; Blocking buffer (normal goat serum) at 37°C for 30min; Antibody incubation with (AMPK alpha 1 (phospho T183) + AMPK alpha 2 (phospho T172)) Polyclonal Antibody, Unconjugated (AP94123) at 1:400 overnight at 4°C, followed by operating according to SP Kit(Rabbit) (sp-0023) instructions and DAB staining.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.