

phospho-AMPK beta 1 (Ser108) Rabbit pAb

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Catalog # AP94422

Product Information

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| Application | IHC-P, IHC-F, IF |
| Primary Accession | P80386 |
| Reactivity | Mouse, Rat |
| Host | Rabbit |
| Clonality | Polyclonal |
| Calculated MW | 30394 |
| Physical State | Liquid |
| Immunogen | KLH conjugated Synthesised phosphopeptide derived from rat AMPK beta 1 around the phosphorylation site of Ser108 |
| Epitope Specificity | TR(p-S)QN |
| Isotype | IgG |
| Purity | affinity purified by Protein A |
| Buffer | 0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol. |
| SIMILARITY | Belongs to the 5'-AMP-activated protein kinase beta subunit family. |
| 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 | Phosphorylated when associated with the catalytic subunit (PRKAA1 or PRKAA2). Phosphorylated by ULK1; leading to negatively regulate AMPK activity and suggesting the existence of a regulatory feedback loop between ULK1 and AMPK. |
| 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 is a regulatory subunit of the AMP-activated protein kinase (AMPK). AMPK is a heterotrimer consisting of an alpha catalytic subunit, and non-catalytic beta and gamma subunits. AMPK is an important energy-sensing enzyme that monitors cellular energy status. In response to cellular metabolic stresses, AMPK is activated, and thus phosphorylates and inactivates acetyl-CoA carboxylase (ACC) and beta-hydroxy beta-methylglutaryl-CoA reductase (HMGCR), key enzymes involved in regulating de novo biosynthesis of fatty acid and cholesterol. This subunit may be a positive regulator of AMPK activity. The myristoylation and phosphorylation of this subunit have been shown to affect the enzyme activity and cellular localization of AMPK. This subunit may also serve as an adaptor molecule mediating the association of the AMPK complex. [provided by RefSeq, Jul 2008]. |

Additional Information

Gene ID 83803

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|---------------------------|---|
| Other Names | 5'-AMP-activated protein kinase subunit beta-1, AMPK subunit beta-1, AMPKb, 5'-AMP-activated protein kinase 40 kDa subunit, Prkab1 |
| Target/Specificity | Highly expressed in kidney, heart, white adipose tissue, lung and spleen. |
| Dilution | IHC-P=1:100-500,IHC-F=1:100-500,IF=1:100-500,Flow-Cyt=2ug/Test |
| 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. |

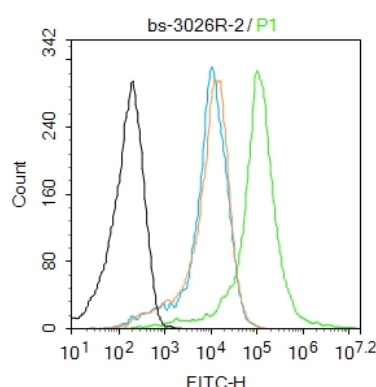
Protein Information

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|------------------------|--|
| Name | Prkab1 |
| Function | Non-catalytic subunit of AMP-activated protein kinase (AMPK), an energy sensor protein kinase that plays a key role in regulating cellular energy metabolism. In response to reduction of intracellular ATP levels, AMPK activates energy-producing pathways and inhibits energy-consuming processes: inhibits protein, carbohydrate and lipid biosynthesis, as well as cell growth and proliferation. AMPK acts via direct phosphorylation of metabolic enzymes, and by longer-term effects via phosphorylation of transcription regulators. Also acts as a regulator of cellular polarity by remodeling the actin cytoskeleton; probably by indirectly activating myosin. Beta non-catalytic subunit acts as a scaffold on which the AMPK complex assembles, via its C-terminus that bridges alpha (PRKAA1 or PRKAA2) and gamma subunits (PRKAG1, PRKAG2 or PRKAG3). |
| Tissue Location | Highly expressed in kidney, heart, white adipose tissue, lung and spleen |

Background

The protein encoded by this gene is a regulatory subunit of the AMP-activated protein kinase (AMPK). AMPK is a heterotrimer consisting of an alpha catalytic subunit, and non-catalytic beta and gamma subunits. AMPK is an important energy-sensing enzyme that monitors cellular energy status. In response to cellular metabolic stresses, AMPK is activated, and thus phosphorylates and inactivates acetyl-CoA carboxylase (ACC) and beta-hydroxy beta-methylglutaryl-CoA reductase (HMGCR), key enzymes involved in regulating de novo biosynthesis of fatty acid and cholesterol. This subunit may be a positive regulator of AMPK activity. The myristoylation and phosphorylation of this subunit have been shown to affect the enzyme activity and cellular localization of AMPK. This subunit may also serve as an adaptor molecule mediating the association of the AMPK complex. [provided by RefSeq, Jul 2008].

Images



Blank control: Mouse spleen.

Primary Antibody (green line): Rabbit Anti-ALOX5 antibody (AP94422)

Dilution: 2 µg /10⁶ cells;

Isotype Control Antibody (orange line): Rabbit IgG .

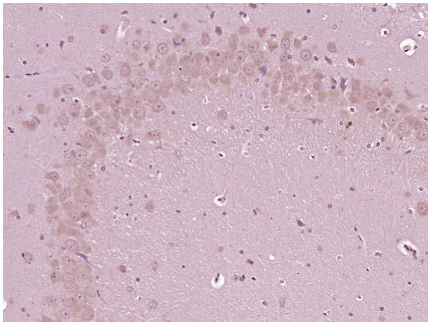
Secondary Antibody : Goat anti-rabbit IgG-AF488

Dilution: 1 µg /test.

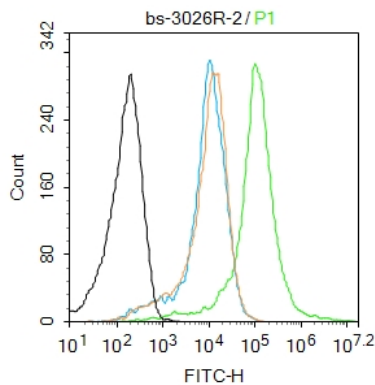
Protocol

The cells were fixed with 70% ethanol (10min at room temperature) and then were incubated in 5%BSA to block non-specific protein-protein interactions for 30 min at

room temperature .Cells stained with Primary Antibody for 30 min at room temperature. The secondary antibody used for 40 min at room temperature. Acquisition of 20,000 events was performed.



Paraformaldehyde-fixed, paraffin embedded (Rat brain); 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 (phospho-AMPK beta 1 (Ser108)) Polyclonal Antibody, Unconjugated (AP94422) at 1:400 overnight at 4°C, followed by operating according to SP Kit(Rabbit) (sp-0023) instructions and DAB staining.



Blank control: Mouse spleen. Primary Antibody (green line): Rabbit Anti-ALOX5 antibody (AP94422) Dilution: 2 µg /10⁶ cells; Isotype Control Antibody (orange line): Rabbit IgG . Secondary Antibody : Goat anti-rabbit IgG-AF488 Dilution: 1 µg /test. Protocol The cells were fixed with 70% ethanol (10min at room temperature) and then were incubated in 5%BSA to block non-specific protein-protein interactions for 30 min at room temperature .Cells stained with Primary Antibody for 30 min at room temperature. The secondary antibody used for 40 min at room temperature. Acquisition of 20,000 events was performed.

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