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Anti-AMPK beta 2 PRKAB2 Antibody Picoband™ (monoclonal, 6G1)

Catalog # ABO14781

Specification

Anti-AMPK beta 2 PRKAB2 Antibody Picoband™ (monoclonal, 6G1) - Product Information

Application	**WB, IHC, ICC, FC**
Primary Accession	O43741
Host	**Mouse**
Isotype	**Mouse IgG2b**
Reactivity	**Human**
Clonality	**Monoclonal**
Format	**Lyophilized**

Description
Anti-AMPK beta 2 PRKAB2 Antibody Picoband™ (monoclonal, 6G1) . Tested in Flow Cytometry, IHC, ICC, WB applications. This antibody reacts with Human.

Reconstitution
Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Anti-AMPK beta 2 PRKAB2 Antibody Picoband™ (monoclonal, 6G1) - Additional Information

Gene ID 5565

Other Names
5'-AMP-activated protein kinase subunit beta-2, AMPK subunit beta-2, PRKAB2

Calculated MW
34 kDa KDa

Application Details
Western blot, 0.1-0.5 µg/ml
 Immunohistochemistry (Frozen Section), 0.5-1 µg/ml
 Immunocytochemistry, 0.5-1 µg/ml
 Flow Cytometry, 1-3 µg/1x106 cells

Contents
Each vial contains 4mg Trehalose, 0.9mg NaCl, 0.2mg Na2HPO4, 0.05mg NaN3.

Immunogen
A synthetic peptide corresponding to a sequence at the N-terminus of human AMPK beta 2, different from the related mouse sequence by three amino acids, and from the related rat sequence by two amino acids.

Cross Reactivity
No cross-reactivity with other proteins.

Storage	**Store at -20˚C for one year from date of receipt. After reconstitution, at 4˚C for one month. It can also be aliquotted and stored frozen at -20˚C for six months. Avoid**

repeated freeze-thaw cycles.

Anti-AMPK beta 2 PRKAB2 Antibody Picoband™ (monoclonal, 6G1) - Protein Information

Name PRKAB2

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).

Anti-AMPK beta 2 PRKAB2 Antibody Picoband™ (monoclonal, 6G1) - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

Anti-AMPK beta 2 PRKAB2 Antibody Picoband™ (monoclonal, 6G1) - Images

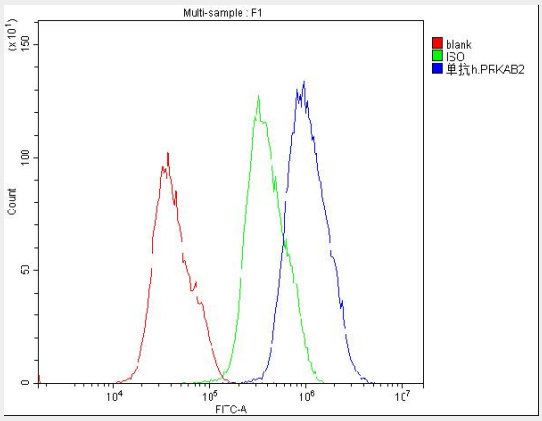

Figure 1. Flow Cytometry analysis of PC-3 cells using anti-AMPK beta 2 antibody (M05077). Overlay histogram showing PC-3 cells stained with M05077 (Blue line).The cells were blocked with 10% normal goat serum. And then incubated with mouse anti-AMPK beta 2 Antibody (M05077,1 µg/1x10^6 cells) for 30 min at 20°C. DyLight®488 conjugated goat anti-mouse IgG (BA1126, 5-10 µg/1x10^6 cells) was used as secondary antibody for 30 minutes at 20°C. Isotype control antibody (Green line) was mouse IgG (1 µg/1x10^6) used under the same conditions. Unlabelled sample (Red

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line) was also used as a control.

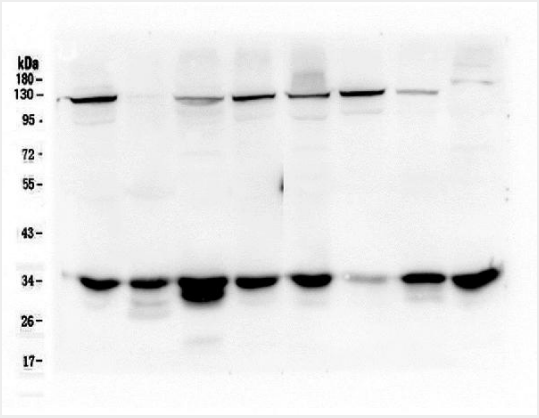

Figure 2. Western blot analysis of AMPK beta 2 using anti-AMPK beta 2 antibody (M05077). Electrophoresis was performed on a 10% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 50ug of sample under reducing conditions.
Lane 1: human Hela whole cell lysate,
Lane 2: human placenta tissue lysate,
Lane 3: human 293T whole cell lysate,
Lane 4: human A549 whole cell lysate,
Lane 5: human A375 whole cell lysate,
Lane 6: human A431 whole cell lysate,
Lane 7: human U20S whole cell lysate,
Lane 8: human K562 whole cell lysate.
After Electrophoresis, proteins were transferred to a Nitrocellulose membrane at 150mA for 50-90 minutes. Blocked the membrane with 5% Non-fat Milk/ TBS for 1.5 hour at RT. The membrane was incubated with mouse anti-AMPK beta 2 antigen affinity purified monoclonal antibody (Catalog # M05077) at 0.5 µg/mL overnight at 4°C, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-mouse IgG-HRP secondary antibody at a dilution of 1:10000 for 1.5 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit (Catalog # EK1001) with Tanon 5200 system.

Anti-AMPK beta 2 PRKAB2 Antibody Picoband™ (monoclonal, 6G1) - Background

5'-AMP-activated protein kinase subunit beta-2 is an enzyme that in humans is encoded by the PRKAB2 gene. 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. It 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. It is highly expressed in skeletal muscle and thus may have tissue-specific roles. Multiple alternatively spliced transcript variants have been found for this gene.