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## **PRKAA2 (C2) Antibody, Rabbit Polyclonal**

**Cat#: R1634-2**

**Quantity: 100 ul**

**Predicted | Observed M.W.: 62 kDa**

**Lot#: Refer to vial**

**Application: WB**

**Uniprot ID: P54646**

### **Background:**

PRKAA2 is the 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. PRKAA2 also acts as a regulator of cellular polarity by remodeling the actin cytoskeleton; probably by indirectly activating myosin. In addition, PRKAA2 regulates lipid synthesis by phosphorylating and inactivating lipid metabolic enzymes such as ACACA, ACACB, GYS1, HMGCR and LIPE; regulates fatty acid and cholesterol synthesis by phosphorylating acetyl-CoA carboxylase (ACACA and ACACB) and hormone-sensitive lipase (LIPE) enzymes, respectively. Furthermore, PRKAA2 regulates transcription and chromatin structure by phosphorylating transcription regulators involved in energy metabolism such as CRTC2/TORC2, FOXO3, histone H2B, HDAC5, MEF2C, MLXIPL/ChREBP, EP300, HNF4A, p53/TP53, SREBF1, SREBF2 and PPARGC1A.

### **Other Names:**

5'-AMP-activated protein kinase catalytic subunit alpha-2, AMPK subunit alpha-2, Acetyl-CoA carboxylase kinase, ACACA kinase, Hydroxymethylglutaryl-CoA reductase kinase, HMGCR kinas, AMPK, AMPK2

### **Source and Purity:**

Rabbit polyclonal antibodies were produced by immunizing animals with a GST-fusion protein containing the C-terminal region of human PRKAA2. Antibodies were purified by affinity purification using immunogen.

### **Storage Buffer and Condition:**

Supplied in 1 x PBS (pH 7.4), 100 ug/ml BSA, 40% Glycerol, 0.01% NaN<sub>3</sub>. Store at -20 °C. Stable for 6 months from date of receipt.

### **Species Specificity:**

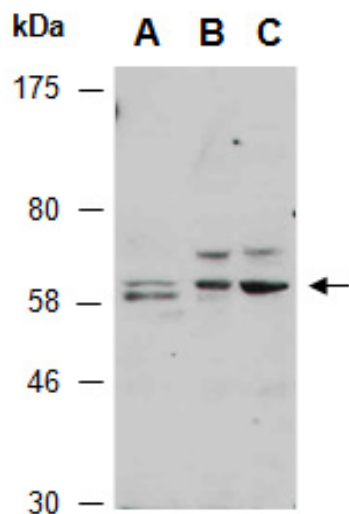
Human, Mouse

**Tested Applications:**

WB: 1:1,000-1:3,000 (detect endogenous protein\*)

\*: The apparent protein size on WB may be different from the calculated M.W. due to modifications.

**Product Data:**



**Fig 1.** Western blot of total cell extracts from A) mouse thymus, B) human HeLa, C) human Jurkat; using anti-PRKAA2 (C2) (R1634-2) at RT for 2 h.