

## Aak1 Antibody

*Aak1 (NT): AP2-associated protein kinase 1*

**CATALOG NO.: 4841**

### BACKGROUND:

AP2-associated protein kinase 1 (Aak1) is a member of the Ark1/Prk1 subfamily of Ser/Thr protein kinases that are thought to regulate endocytosis by phosphorylating the accessory endocytic components (1,2). Aak1 interacts with and phosphorylates the  $\mu$ 2 subunit of the AP-2 complex, which promotes binding of the AP-2 to tyrosine based (Yxx $\phi$ ) internalization motif-containing receptors and subsequent receptor endocytosis (3). At least two isoforms of Aak1 are known to exist; the longer isoform contains an extended carboxy-terminus that contains an additional clathrin-binding domain (4). Overexpression of this long isoform or Aak1 depletion by RNA interference impairs transferrin recycling from the early/sorting endosome, suggesting that Aak1 functions at multiple steps of the endosomal pathway by regulating transferrin internalization and its recycling back to the plasma membrane (4).

### SOURCE:

Rabbit polyclonal Aak1 antibody was raised against a 20 amino acid peptide near the amino terminus of the human Aak1 (GenBank accession no. NP\_055726).

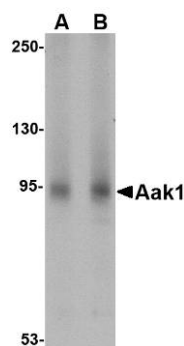
### APPLICATION:

Aak1 antibody can be used for detection of Aak1 by Western blot at 1 – 2  $\mu$ g/ml. (Optimal dilution should be determined by user.) Rat spleen tissue lysate can be used as positive control. Aak1 antibody is human, mouse and rat reactive.

**This product is for research use only.**

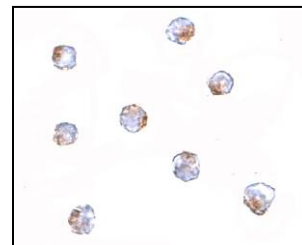
### STORAGE:

Aak1 antibody is supplied as immunoaffinity purified IgG in PBS containing 0.02% sodium azide. Store at 4°C, stable for one year.



Western blot analysis of Aak1 in rat spleen lysate with Aak1 antibody at (A) 1 and (B) 2  $\mu$ g/ml.

Immunocytochemistry of Aak1 in A-20 cells with Aak1 antibody at 5  $\mu$ g/ml.



### RELATED PRODUCTS:

Blocking peptide, Catalog No. **4841P**.  
Rat Spleen Tissue Lysate, Catalog No. **1466**.  
Aak1 Antibody (CT), Catalog No. **4831**.

### REFERENCES:

1. Connor SD and Schmid SL. Identification of an adaptor-associated kinase, AAK1, as a regulator of clathrin-mediated endocytosis. *J. Cell Biol.* 2002; 156:921-9.
2. Smythe E and Ayscough KR. The Ark1/Prk1 family of protein kinases. Regulators of endocytosis and the actin skeleton. *EMBO Rep.* 2003; 4:246-51.
3. Ricotta D, Connor SD, Schmid SL, et al. Phosphorylation of the AP2  $\mu$ 2 subunit by AAK1 mediates high affinity binding to membrane protein sorting signals. *J. Cell Biol.* 2002; 156:791-5.
4. Connor SD and Henderson DM. A novel AAK1 splice variant functions at multiple steps of the endocytic pathway. *Mol. Biol. Cell* 2007; 18:2698-706. (08-01D)