SANTA CRUZ BIOTECHNOLOGY, INC.

AAK1 (LW-M11): sc-134242



BACKGROUND

Adaptor-related protein complex 2 (AP-2 complexes) operates during receptormediated endocytosis to initiate clathrin assembly, associates with membrane-bound receptors and mobilizes encodytic accessory factors. AAK1 (AP2 associated kinase 1), also known as adaptor-associated kinase 1, is a 961 amino acid protein belonging to the protein kinase superfamily and the serine/threonine protein kinase family. Encoded by a gene that maps to human chromosome 2p13.3, AAK1 participates in ATP and nucleotide binding, protein serine/threonine kinase functions and transferase activity. AAK1 phosphorylates a subunit of the AP-2 complex, which leads to binding of AP-2 to sorting signals in membrane-bound receptors, resulting in receptor endocytosis. AAK1 contains one protein kinase domain, with kinase activity stimulated by clathrin, and exists as two alternatively spliced isoforms.

REFERENCES

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- Smythe, E. and Ayscough, K.R. 2003. The Ark1/Prk1 family of protein kinases. Regulators of endocytosis and the Actin skeleton. EMBO Rep. 4: 246-251.
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- 7. Collawn, J.F. 2006. Unlocking the mysteries of Na+-K+-ATPase endocytosis: phosphorylation is the key. Am. J. Respir. Cell Mol. Biol. 35: 1-2.
- 8. Henderson, D.M. and Conner, S.D. 2007. A novel AAK1 splice variant functions at multiple steps of the endocytic pathway. Mol. Biol. Cell 18: 2698-2706.

CHROMOSOMAL LOCATION

Genetic locus: AAK1 (human) mapping to 2p13.3.

SOURCE

AAK1 (LW-M11) is a mouse monoclonal antibody raised against recombinant AAK1 protein of human origin.

PRODUCT

Each vial contains 100 μg lgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

AAK1 (LW-M11) is recommended for detection of AAK1 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for AAK1 siRNA (h): sc-94850, AAK1 shRNA Plasmid (h): sc-94850-SH and AAK1 shRNA (h) Lentiviral Particles: sc-94850-V.

Molecular Weight of AAK1: 104 kDa.

Positive Controls: U-87 MG cell lysate: sc-2411, HeLa whole cell lysate: sc-2200 or AAK1 (h): 293 Lysate: sc-158217.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker[™] Molecular Weight Standards: sc-2035, UltraCruz[®] Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

DATA





AAK1 (LW-M11): sc-134242. Western blot analysis of AAK1 expression in U-87 MG (\bf{A}) and HeLa (\bf{B}) whole cell lysates and rat kidney tissue extract (\bf{C}).

AAK1 (LW-M11): sc-134242. Western blot analysis of AAK1 expression in non-transfected: sc-110760 (**A**) and human AAK1 transfected: sc-158217 (**B**) 293 whole cell lysates.

SELECT PRODUCT CITATIONS

 Liu, Q., et al. 2021. Dysregulation of the AP2M1 phosphorylation cycle by LRRK2 impairs endocytosis and leads to dopaminergic neurodegeneration. Sci. Signal. 14: eabg3555.

STORAGE

Store at 4° C, **D0 NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.