

IP6K1 (K-17): sc-10420

BACKGROUND

The members of the inositol hexakisphosphate kinase family, IP6K1 and IP6K2, have a high affinity and selectivity for inositol hexakisphosphate (InsP6) as a substrate. IP6K1 and IP6K2 (also designated PiUS) convert InsP6 to PP-InsP5. However, neither kinase demonstrates any catalytic activity with other inositol pyrophosphates. The presence of InsP6, which inhibits serine/threonine protein phosphatases, increases the influx of calcium across the plasma membrane and implies that it may mediate the regulation of Insulin exocytosis. IP6K1 was purified in rat brain extracts. By homology, IP6K1 and IP6K2 were characterized in mouse. IP6K1 displays ATP synthase activity by transferring a phosphate from PP-InsP5 to ADP, which suggests a role for the IP6 kinases as high energy phosphate donors.

REFERENCES

1. Voglmaier, S.M., Bembenek, M.E., Kaplin, A.I., Dorman, G., Olszewski, J.D., Prestwich, G.D. and Snyder, S.H. 1996. Purified inositol hexakisphosphate kinase is an ATP synthase: diphosphoinositol pentakisphosphate as a high-energy phosphate donor. *Proc. Natl. Acad. Sci. USA* 93: 4305-4310.
2. Huang, C.F., Voglmaier, S.M., Bembenek, M.E., Saiardi, A. and Snyder, S.H. 1998. Identification and purification of disphosphoinositol pentakisphosphate kinase, which synthesizes the inositol pyrophosphate bis(diphospho)inositol tetrakisphosphate. *Biochemistry* 37: 14998-15004.
3. Schell, M.J., Letcher, A.J., Brearley, C.A., Biber, J., Murer, H. and Irvine, R.F. 1999. PiUS (Pi uptake stimulator) is an inositol hexakisphosphate kinase. *FEBS Lett.* 461: 169-172.

CHROMOSOMAL LOCATION

Genetic locus: IHPK1 (human) mapping to 3p21.31; Ihpk1 (mouse) mapping to 9 F2.

SOURCE

IP6K1 (K-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of IP6K1 of mouse origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-10420 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

PROTOCOLS

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

APPLICATIONS

IP6K1 (K-17) is recommended for detection of IP6K1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

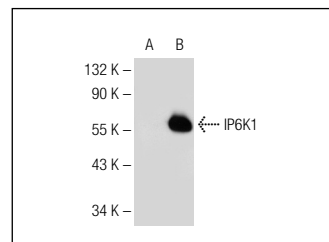
IP6K1 (K-17) is also recommended for detection of IP6K1 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for IP6K1 siRNA (h): sc-39069, IP6K1 siRNA (m): sc-39070, IP6K1 shRNA Plasmid (h): sc-39069-SH, IP6K1 shRNA Plasmid (m): sc-39070-SH, IP6K1 shRNA (h) Lentiviral Particles: sc-39069-V and IP6K1 shRNA (m) Lentiviral Particles: sc-39070-V.

Molecular Weight of IP6K1: 54 kDa.

Positive Controls: IP6K1 (h): 293 Lysate: sc-111154, mouse brain extract: sc-2253 or SK-N-SH cell lysate: sc-2410.

DATA



IP6K1 (K-17): sc-10420. Western blot analysis of IP6K1 expression in non-transfected: sc-117752 (A) and human IP6K1 transfected: sc-111154 (B) 293T whole cell lysates.

RESEARCH USE

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

MONOS
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Try **IP6K1 (A-10): sc-374292** or **IP6K1 (E-11): sc-376290**, our highly recommended monoclonal alternatives to IP6K1 (K-17).