

IP6K1 (h): 293 Lysate: sc-111154

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 diphosphoinositol 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.
4. Barker, C.J. and Berggren, P.O. 1999. Inositol hexakisphosphate and β -cell stimulus-secretion coupling. *Anticancer Res.* 19: 3737-3741.
5. Saiardi, A., Erdjument-Bromage, H., Snowman, A.M., Tempst, P. and Snyder, S.H. 1999. Synthesis of diphosphoinositol pentakisphosphate by a newly identified family of higher inositol polyphosphate kinases. *Curr. Biol.* 9: 1323-1326.

CHROMOSOMAL LOCATION

Genetic locus: IHPK1 (human) mapping to 3p21.31.

PRODUCT

IP6K1 (h): 293 Lysate represents a lysate of human IP6K1 transfected 293 cells and is provided as 100 μ g protein in 200 μ l SDS-PAGE buffer.

APPLICATIONS

IP6K1 (h): 293 Lysate is suitable as a Western Blotting positive control for human reactive IP6K1 antibodies. Recommended use: 10-20 μ l per lane.

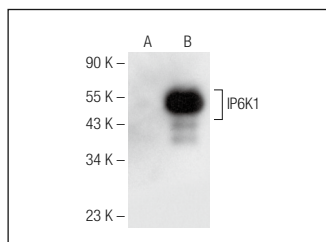
Control 293 Lysate: sc-110760 is available as a Western Blotting negative control lysate derived from non-transfected 293 cells.

IP6K1 (A-10): sc-374292 is recommended as a positive control antibody for Western Blot analysis of enhanced human IP6K1 expression in IP6K1 transfected 293 cells (starting dilution 1:100, dilution range 1:100-1:1,000).

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended:
1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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.

DATA



IP6K1 (A-10): sc-374292. Western blot analysis of IP6K1 expression in non-transfected: sc-110760 (A) and human IP6K1 transfected: sc-111154 (B) 293 whole cell lysates.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. 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.