

ADPGK (h): 293T Lysate: sc-176797

BACKGROUND

ADPGK (ADP-dependent glucokinase), also known as ADP-GK or RbBP-35, is a member of the ADP-dependent glucokinase family of proteins that are involved in both carbohydrate degradation and glycolysis. Expressed in a wide variety of tissues including lymphatic, endocrine, muscular and epithelial, ADPGK functions to catalyze the ADP-dependent phosphorylation of D-glucose to D-glucose 6-phosphate. Although GDP and CDP can replace ADP as a phosphate donor, the enzymatic efficiency of ADPGK is decreased when anything other than ADP is used. ADPGK contains one ADPK (ADP-dependent kinase) domain and is able to bind one magnesium ion as a cofactor. Five isoforms of ADPGK exist due to alternative splicing events.

REFERENCES

1. Tsuge, H., et al. 2002. Crystal structure of the ADP-dependent glucokinase from *Pyrococcus horikoshii* at 2.0-Å resolution: a large conformational change in ADP-dependent glucokinase. *Protein Sci.* 11: 2456-2463.
2. Sakuraba, H., et al. 2002. ADP-dependent glucokinase/phosphofructokinase, a novel bifunctional enzyme from the hyperthermophilic archaeon *Methanococcus jannaschii*. *J. Biol. Chem.* 277: 12495-12498.
3. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 611861. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
4. Ronimus, R.S. and Morgan, H.W. 2004. Cloning and biochemical characterization of a novel mouse ADP-dependent glucokinase. *Biochem. Biophys. Res. Commun.* 315: 652-658.
5. Gregori, C., et al. 2006. Insulin regulation of glucokinase gene expression: evidence against a role for sterol regulatory element binding protein 1 in primary hepatocytes. *FEBS Lett.* 580: 410-414.

CHROMOSOMAL LOCATION

Genetic locus: ADPGK (human) mapping to 15q24.1.

PRODUCT

ADPGK (h): 293T Lysate represents a lysate of human ADPGK transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

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.

APPLICATIONS

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

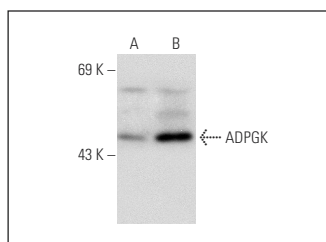
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

ADPGK (AA40): sc-100751 is recommended as a positive control antibody for Western Blot analysis of enhanced human ADPGK expression in ADPGK transfected 293T 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-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.

DATA



ADPGK (AA40): sc-100751. Western blot analysis of ADPGK expression in non-transfected: sc-117752 (A) and human ADPGK transfected: sc-176797 (B) 293T whole cell lysates.

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.