ADPGK (T-15): sc-163646

SANTA CRUZ®

BIOTECHNOLOGY

The Power to Question

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-A 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; Adpgk (mouse) mapping to 9 B.

SOURCE

ADPGK (T-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of ADPGK of human 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-163646 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.

RESEARCH USE

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

APPLICATIONS

ADPGK (T-15) is recommended for detection of ADPGK of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

ADPGK (T-15) is also recommended for detection of ADPGK in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for ADPGK siRNA (h): sc-90031, ADPGK siRNA (m): sc-140887, ADPGK shRNA Plasmid (h): sc-90031-SH, ADPGK shRNA Plasmid (m): sc-140887-SH, ADPGK shRNA (h) Lentiviral Particles: sc-90031-V and ADPGK shRNA (m) Lentiviral Particles: sc-140887-V.

Molecular Weight of ADPGK: 52 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

PROTOCOLS

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