SANTA CRUZ BIOTECHNOLOGY, INC.

GCKR (H-300): sc-11416

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Glucokinase (also designated hexokinase IV or GCK) plays a key role in the regulation of glucose-induced Insulin secretion. GCK is expressed in pancreatic β cells, where it functions as a glucose sensor, determining the "set point" for Insulin secretion. GCK is also expressed in the liver, where it catalyzes the first step in the disposal of glucose. A lack of glucokinase activity leads to reduced Insulin secretion and hyperglycemia and has been implicated as a cause for maturity onset diabetes of the youth (MODY). Heterozygous point mutations in the gene encoding GCK have been detected in individuals suffering from MODY. GCK is regulated by GCKR (glucokinase regulatory protein).

REFERENCES

1. Detheux, M., et al. 1993. Cloning and sequencing of rat liver cDNAs encoding the regulatory protein of glucokinase. FEBS Lett. 321: 111-115.
2. Bali, D., et al. 1995. Animal model for maturity-onset diabetes of the young generated by disruption of the mouse glucokinase gene. J. Biol. Chem. 270: 21464-21467.
3. Liang, Y., et al. 1995. Variable effects of maturity-onset-diabetes-of-youth (MODY)-associated glucokinase mutations on substrate interactions and stability of the enzyme. Biochem. J. 309: 167-173.

CHROMOSOMAL LOCATION

Genetic locus: GCKR (human) mapping to 2p23.3; Gckr (mouse) mapping to 5 B1.

SOURCE

GCKR (H-300) is a rabbit polyclonal antibody raised against amino acids 1-300 mapping near the N-terminus of GCKR 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.

APPLICATIONS

GCKR (H-300) is recommended for detection of GCKR 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).

GCKR (H-300) is also recommended for detection of GCKR in additional species, including equine, canine and porcine.

Suitable for use as control antibody for GCKR siRNA (h): sc-35460, GCKR siRNA (m): sc-35461, GCKR shRNA Plasmid (h): sc-35460-SH, GCKR shRNA Plasmid (m): sc-35461-SH, GCKR shRNA (h) Lentiviral Particles: sc-35460-V and GCKR shRNA (m) Lentiviral Particles: sc-35461-V.

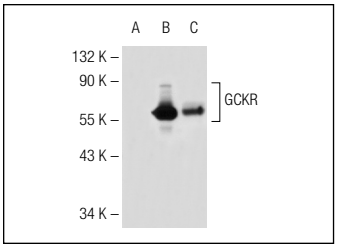
Molecular Weight of GCKR: 68 kDa.

Positive Controls: mouse liver extract: sc-2256, GCKR (m): 293T Lysate: sc-120452 or rat liver extract: sc-2395.

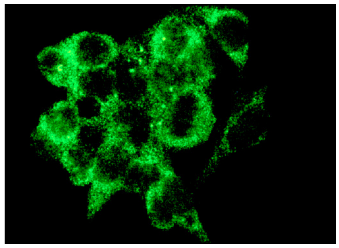
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



GCKR (H-300): sc-11416. Western blot analysis of GCKR expression in non-transfected: sc-117752 (**A**) and mouse GCKR transfected: sc-120452 (**B**) 293T whole cell lysates and mouse liver tissue extract (**C**).



GCKR (H-300): sc-11416. Immunofluorescence staining of methanol-fixed Hep G2 cells showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

1. Hiskett, E.K., et al. 2009. Lack of glucokinase regulatory protein expression may contribute to low glucokinase activity in feline liver. Vet. Res. Commun. 33: 227-240.
2. Polakof, S., et al. 2009. A hepatic protein modulates glucokinase activity in fish and avian liver: a comparative study. J. Comp. Physiol. B, Biochem. Syst. Environ. Physiol. 179: 643-652.

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.

PROTOCOLS

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