SANTA CRUZ BIOTECHNOLOGY, INC.

# GCKR (N-19): sc-6340

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).

## CHROMOSOMAL LOCATION

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

## SOURCE

GCKR (N-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at 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.

Blocking peptide available for competition studies, sc-6340 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

GCKR (N-19) 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 (N-19) is also recommended for detection of GCKR in additional species, including equine 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: Hep G2 cell lysate: sc-2227, rat liver extract: sc-2395 or mouse liver extract: sc-2256.

## STORAGE

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

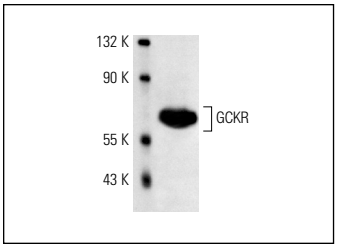
## PROTOCOLS

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

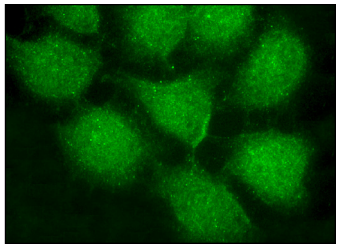
## RESEARCH USE

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

## DATA




GCKR (N-19): sc-6340. Western blot analysis of GCKR expression in rat liver extract.



MRE11 (C-16): sc-5859. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear and cytoplasmic localization.

## SELECT PRODUCT CITATIONS


1. Slosberg, E.D., et al. 2001. Treatment of type 2 diabetes by adenoviral-mediated overexpression of the glucokinase regulatory protein. Diabetes 50: 1813-1820.
2. Arden, C., et al. 2006. Glucokinase regulatory protein is associated with mitochondria in hepatocytes. FEBS Lett. 580: 2065-2070.
3. Mukhtar, M.H., et al. 2008. Inhibition of glucokinase translocation by AMP-activated protein kinase is associated with phosphorylation of both GKRP and 6-phosphofructo-2-kinase/fructose-2,6-bisphosphatase. Am. J. Physiol. Regul. Integr. Comp. Physiol. 294: R766-R774.
4. 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.
5. Roncero I., et al. 2009. Glucokinase and glucokinase regulatory proteins are functionally coexpressed before birth in the rat brain. J. Neuroendocrinol. 21: 973-981.
6. Roncero, I., et al. 2013. Insulin-receptor substrate-2 (irs-2) is required for maintaining glucokinase and glucokinase regulatory protein expression in mouse liver. PLoS ONE 8: e58797.