

#14328 Store at -20C

**GCKR (D1W9P) Rabbit mAb****Cell Signaling**  
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**For Research Use Only. Not for Use in Diagnostic Procedures.**

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
WB, IP, IF-F	H M R	Endogenous	66	Rabbit IgG	#Q14397	2646

**Product Usage Information****Application**

Western Blotting

Immunoprecipitation

Immunofluorescence (Frozen)

**Dilution**

1:1000

1:100

1:100

**Storage**

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at -20°C. Do not aliquot the antibody.

**Specificity / Sensitivity**

GCKR (D1W9P) Rabbit mAb recognizes endogenous levels of total GCKR protein.

**Source / Purification**

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues near the amino terminus of human GCKR protein.

**Background**

Glucokinase regulatory protein (GCKR, GKRP) regulates the activity and localization of glucokinase, an important metabolic regulator of glucose uptake, glycogen synthesis, and glucose production in hepatocytes (1). GKRP plays a key role in glucose homeostasis as it inhibits glucokinase activity and sequesters this metabolic enzyme in hepatocyte nuclei; in response to changes in glucose concentration, GCKR promotes the release of glucokinase into the cytoplasm (2). During conditions of low blood glucose levels, GCKR binds to fructose-6-phosphate, which leads to GCKR binding to glucokinase and the subsequent nuclear localization and inactivation of glucokinase. After feeding, GCKR binds fructose-1-phosphate, which disrupts the interaction between GCKR and glucokinase and releases active glucokinase to cytoplasm (1-3). Polymorphisms in the corresponding *GCKR* gene are associated with atypical plasma triglyceride levels, fasting glucose and insulin levels, and glucokinase activity (4,5).

**Background References**

1. Printz, R.L. et al. (1993) *Annu Rev Nutr* 13, 463-96.
2. Choi, J.M. et al. (2013) *Proc Natl Acad Sci U S A* 110, 10171-6.
3. Iynedjian, P.B. (2009) *Cell Mol Life Sci* 66, 27-42.
4. Orho-Melander, M. et al. (2008) *Diabetes* 57, 3112-21.
5. Beer, N.L. et al. (2009) *Hum Mol Genet* 18, 4081-8.

**Species Reactivity**

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

**Western Blot Buffer**

**IMPORTANT:** For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

**Applications Key**

**WB:** Western Blotting **IP:** Immunoprecipitation **IF-F:** Immunofluorescence (Frozen)

**Cross-Reactivity Key**

**H:** human **M:** mouse **R:** rat **Hm:** hamster **Mk:** monkey **Vir:** virus **Mi:** mink **C:** chicken **Dm:** D. melanogaster  
**X:** Xenopus **Z:** zebrafish **B:** bovine **Dg:** dog **Pg:** pig **Sc:** S. cerevisiae **Ce:** C. elegans **Hr:** horse  
**GP:** Guinea Pig **Rab:** rabbit **All:** all species expected

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