

GCKR (D1W9P) Rabbit mAb

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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W, 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, GKR) regulates the activity and localization of glucokinase, an important metabolic regulator of glucose uptake, glycogen synthesis, and glucose production in hepatocytes (1). GKR 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

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

Cross-Reactivity Key

H: Human **M:** Mouse **R:** Rat

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