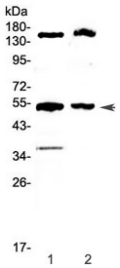
Glucokinase Antibody / GCK (RQ4053)

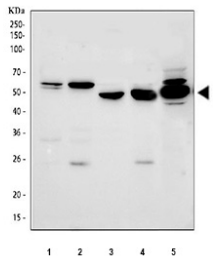
Catalog No.	Formulation	Size
RQ4053	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

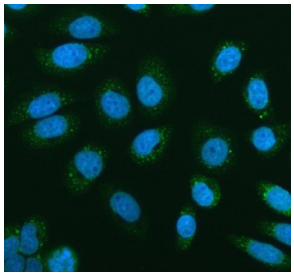
Availability	1-3 business days
Species Reactivity	Human, Mouse, Rat
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Antigen affinity purified
Buffer	Lyophilized from 1X PBS with 2% Trehalose
UniProt	P35557
Localization	Cytoplasmic, Nuclear
Applications	Western Blot : 0.5-1ug/ml Immunofluorescence : 5ug/ml Direct ELISA : 0.1-0.5ug/ml
Limitations	This Glucokinase antibody is available for research use only.



Western blot testing of 1) rat liver and 2) mouse liver lysate with Glucokinase antibody at 0.5ug/ml. Predicted molecular weight ~52 kDa.



Western blot testing of 1) human SH-SY5Y, 2) human Jurkat, 3) rat liver, 4) rat RH35 and 5) mouse HEPA1/6 cell lysate with Glucokinase antibody at 0.5ug/ml. Predicted molecular weight ~52 kDa.



Immunofluorescent staining of FFPE human SiHa cells with Glucokinase antibody (green) and DAPI nuclear stain (blue). HIER: steam section in pH6 citrate buffer for 20 min.

Description

Glucokinase, also known as Hexokinase IV or GCK, is a key enzyme that catalyzes the phosphorylation of glucose to glucose-6-phosphate, the first step in the glycolytic pathway. Unlike other hexokinase isoforms, glucokinase displays a lower affinity for glucose and is not inhibited by its product, allowing it to function as an effective glucose sensor in specific tissues. It is predominantly expressed in the liver and pancreatic ÃŽÂ²-cells, where it plays a vital role in maintaining systemic glucose homeostasis.

In the liver, glucokinase regulates glycogen synthesis and glycolysis in response to elevated blood glucose levels. In pancreatic ÃŽÂ²-cells, it governs insulin secretion by controlling the rate of glucose metabolism. Mutations or altered regulation of glucokinase are associated with various metabolic disorders, including maturity-onset diabetes of the young (MODY) and persistent hyperinsulinemic hypoglycemia of infancy (PHHI). Given its tissue-specific function and clinical relevance, glucokinase is a valuable biomarker in both basic research and metabolic disease studies.

The Glucokinase antibody is an essential tool for researchers studying glucose metabolism, pancreatic function, and diabetes. With proven performance in immunohistochemistry, western blot, and immunofluorescence, the Glucokinase antibody allows for accurate detection of glucokinase expression in relevant tissues and models. Incorporating the Glucokinase antibody into your workflow provides critical insight into glucose regulation pathways and supports translational research into metabolic disorders.

Application Notes

Optimal dilution of the Glucokinase antibody should be determined by the researcher.

Immunogen

A recombinant human partial protein corresponding to amino acids Y234-T431 was used as the immunogen for the Glucokinase antibody.

Storage

After reconstitution, the Glucokinase antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.