10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

GCK (Glucokinase) Antibody
Rabbit Polyclonal Antibody
Catalog # ABV10125

Specification

GCK (Glucokinase) Antibody - Product Information

Application	**WB, IHC, IF, FC, E**
Primary Accession	P35557
Reactivity	**Human, Mouse**
Host	**Rabbit**
Clonality	**Polyclonal**
Isotype	**Rabbit IgG**
Calculated MW	**52191**

GCK (Glucokinase) Antibody - Additional Information

Gene ID 2645

Application & Usage	**The antibody can be used for ELISA (0.25 µg/ml), Western Blotting (0.5 – 2.5 µg/ml), Immunohistochemistry (2.5 – 5.0 µg/ml), Immunoflurescence (1:10 - 1:50), and Flow cytometry.**

Other Names
Hexokinase D, Hexokinase type IV, HK IV, HK4, Glucokinase

Target/Specificity
GCK (Glucokinase)

Antibody Form
Liquid

Appearance
Colorless liquid

Formulation
100 µg (0.25 mg/ml) purified rabbit Ig polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide.

Handling
The antibody solution should be gently mixed before use.

Reconstitution & Storage
-20 °C

Background Descriptions

Precautions
GCK (Glucokinase) Antibody is for research use only and not for use in diagnostic or therapeutic

procedures.

GCK (Glucokinase) Antibody - Protein Information

Name GCK {ECO:0000303|PubMed:17573900, ECO:0000312|HGNC:HGNC:4195}

Function
Catalyzes the phosphorylation of hexose, such as D-glucose, D-fructose and D-mannose, to hexose 6-phosphate (D-glucose 6-phosphate, D-fructose 6-phosphate and D-mannose 6-phosphate, respectively) (PubMed:7742312, PubMed:11916951, PubMed:15277402, PubMed:17082186, PubMed:18322640, PubMed:19146401, PubMed:25015100, PubMed:8325892). Compared to other hexokinases, has a weak affinity for D-glucose, and is effective only when glucose is abundant (By similarity). Mainly expressed in pancreatic beta cells and the liver and constitutes a rate-limiting step in glucose metabolism in these tissues (PubMed:18322640, PubMed:25015100, PubMed:8325892, PubMed:11916951, PubMed:15277402). Since insulin secretion parallels glucose metabolism and the low glucose affinity of GCK ensures that it can change its enzymatic activity within the physiological range of glucose concentrations, GCK acts as a glucose sensor in the pancreatic beta cell (By similarity). In pancreas, plays an important role in modulating insulin secretion (By similarity). In liver, helps to facilitate the uptake and conversion of glucose by acting as an insulin-sensitive determinant of hepatic glucose usage (By similarity). Required to provide D-glucose 6-phosphate for the synthesis of glycogen (PubMed:8878425). Mediates the initial step of glycolysis by catalyzing phosphorylation of D-glucose to D-glucose 6-phosphate (PubMed:7742312).

Cellular Location
Cytoplasm. Nucleus. Mitochondrion {ECO:0000250|UniProtKB:P17712}. Note=Under low glucose concentrations, GCK associates with GCKR and the inactive complex is recruited to the hepatocyte nucleus.

GCK (Glucokinase) Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

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GCK (Glucokinase) Antibody - Images

GCK (Glucokinase) Antibody - Background

Hexokinases phosphorylate glucose to produce glucose-6-phosphate, thus committing glucose to the glycolytic pathway. Alternative splicing of the gene for GCK results in three tissue-specific forms of glucokinase, one found in pancreatic islet beta cells and two found in liver. The protein localizes to the outer membrane of mitochondria. In contrast to other forms of hexokinase, this enzyme is not inhibited by its product glucose-6-phosphate but remains active while glucose is abundant. Mutations in the gene have been associated with non-insulin dependent diabetes mellitus (NIDDM), also called maturity onset diabetes of the young, type 2 (MODY2); mutations have also been associated with persistent hyperinsulinemic hypoglycemia of infancy (PHHI).