

Anti-Glucokinase Picoband Antibody
Catalog # ABO12897

Specification

Anti-Glucokinase Picoband Antibody - Product Information

Application	WB
Primary Accession	P35557
Host	Rabbit
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Format	Lyophilized

Description

Rabbit IgG polyclonal antibody for Glucokinase detection. Tested with WB, Direct ELISA in Human;Mouse;Rat.

Reconstitution

Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Anti-Glucokinase Picoband Antibody - Additional Information

Gene ID 2645

Other Names

Glucokinase, 2.7.1.2, Hexokinase type IV, HK IV, Hexokinase-4, HK4, Hexokinase-D, GCK

Application Details

Western blot, 0.1-0.5 µg/ml
 Direct ELISA, 0.1-0.5 µg/ml

Subcellular Localization

Cytoplasm.

Tissue Specificity

Isoform 1 is expressed in pancreas. Isoform 2 and isoform 3 is expressed in liver.

Contents

Each vial contains 4mg Trehalose, 0.9mg NaCl, 0.2mg Na₂HPO₄, 0.05mg Na₃.

Immunogen

E. coli-derived human Glucokinase recombinant protein (Position: Y234-T431).

Cross Reactivity

No cross reactivity with other proteins.

Storage

At -20°C; for one year. After r°Constitution, at 4°C; for one month. It°Can also be aliquotted and stored frozen at -20°C; for a longer time. Avoid repeated freezing and thawing.

Anti-Glucokinase Picoband 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: [11916951](http://www.uniprot.org/citations/11916951) target="_blank">11916951, PubMed: [15277402](http://www.uniprot.org/citations/15277402) target="_blank">15277402, PubMed: [17082186](http://www.uniprot.org/citations/17082186) target="_blank">17082186, PubMed: [18322640](http://www.uniprot.org/citations/18322640) target="_blank">18322640, PubMed: [19146401](http://www.uniprot.org/citations/19146401) target="_blank">19146401, PubMed: [25015100](http://www.uniprot.org/citations/25015100) target="_blank">25015100, PubMed: [7742312](http://www.uniprot.org/citations/7742312) target="_blank">7742312, PubMed: [8325892](http://www.uniprot.org/citations/8325892) target="_blank">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: [11916951](http://www.uniprot.org/citations/11916951) target="_blank">11916951, PubMed: [15277402](http://www.uniprot.org/citations/15277402) target="_blank">15277402, PubMed: [18322640](http://www.uniprot.org/citations/18322640) target="_blank">18322640, PubMed: [25015100](http://www.uniprot.org/citations/25015100) target="_blank">25015100, PubMed: [8325892](http://www.uniprot.org/citations/8325892) target="_blank">8325892). 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](http://www.uniprot.org/citations/8878425) target="_blank">8878425). Mediates the initial step of glycolysis by catalyzing phosphorylation of D-glucose to D-glucose 6-phosphate (PubMed: [7742312](http://www.uniprot.org/citations/7742312) target="_blank">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.

Anti-Glucokinase Picoband 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 Cytometry](#)
- [Cell Culture](#)

Anti-Glucokinase Picoband Antibody - Images

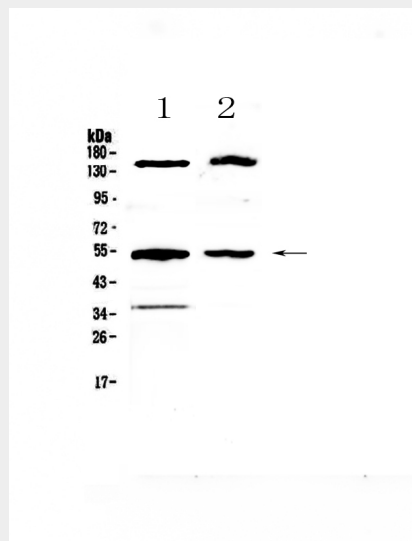


Figure 1. Western blot analysis of Glucokinase using anti-Glucokinase antibody (ABO12897).

Anti-Glucokinase Picoband Antibody - Background

Glucokinase(GCK) is an enzyme that facilitates phosphorylation of glucose to glucose-6-phosphate. Hexokinases phosphorylate glucose to produce glucose-6-phosphate, the first step in most glucose metabolism pathways. Alternative splicing of this gene 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 this gene have been associated with non-insulin dependent diabetes mellitus (NIDDM), maturity onset diabetes of the young, type 2 (MODY2) and persistent hyperinsulinemic hypoglycemia of infancy (PHI).