Anti-Glucokinase antibody ab137714

Overview

Product name: Anti-Glucokinase antibody
Description: Rabbit polyclonal to Glucokinase
Host species: Rabbit
Tested applications: Suitable for: WB, IHC-P, ICC/IF
Species reactivity: Reacts with: Human
Predicted to work with: Mouse, Rat
Immunogen: Recombinant fragment corresponding to Human Glucokinase aa 1-250.
Database link: P35557

Properties

Form: Liquid
Storage instructions: Shipped at 4°C. Upon delivery aliquot. Store at -20°C or -80°C. Avoid freeze / thaw cycle.
Storage buffer: pH: 7.00
Preservative: 0.01% Thimerosal (merthiolate)
Constituents: 1.21% Tris, 0.75% Glycine, 20% Glycerol
Purity: Immunogen affinity purified
Clonality: Polyclonal
Isotype: IgG

Applications

Our Abpromise guarantee covers the use of ab137714 in the following tested applications.
The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

<table>
<thead>
<tr>
<th>Application</th>
<th>Abreviews</th>
<th>Notes</th>
</tr>
</thead>
</table>
Function
Catalyzes the initial step in utilization of glucose by the beta-cell and liver at physiological glucose concentration. Glucokinase has a high Km for glucose, and so it is effective only when glucose is abundant. The role of GCK is to provide G6P for the synthesis of glycogen. Pancreatic glucokinase plays an important role in modulating insulin secretion. Hepatic glucokinase helps to facilitate the uptake and conversion of glucose by acting as an insulin-sensitive determinant of hepatic glucose usage.

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

Involvement in disease
Defects in GCK are the cause of maturity-onset diabetes of the young type 2 (MODY2) [MIM:125851]; also shortened MODY-2. MODY is a form of diabetes that is characterized by an autosomal dominant mode of inheritance, onset in childhood or early adulthood (usually before 25 years of age), a primary defect in insulin secretion and frequent insulin-independence at the beginning of the disease.
Defects in GCK are the cause of familial hyperinsulinemic hypoglycemia type 3 (HHF3) [MIM:602485]; also known as persistent hyperinsulinemic hypoglycemia of infancy (PHHI) or congenital hyperinsulinism. HHF is the most common cause of persistent hypoglycemia in infancy. Unless early and aggressive intervention is undertaken, brain damage from recurrent episodes of hypoglycemia may occur.

Sequence similarities
Belongs to the hexokinase family.

Images

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</tr>
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<tbody>
<tr>
<td>IHC-P</td>
<td>1/100 - 1/1000. Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.</td>
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<tr>
<td>ICC/IF</td>
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**Target**

**Function**
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**Images**

![Western blot - Anti-Glucokinase antibody (ab137714)](image)

All lanes: Anti-Glucokinase antibody (ab137714) at 1/1000 dilution

Lane 1: Huh7 whole cell lysate
Lane 2: Hep3B whole cell lysate
Lane 3: HepG2 (human liver hepatocellular carcinoma cell line) whole cell lysate

Lysates/proteins at 30 µg per lane.

Predicted band size: 52 kDa
Paraffin-embedded human MCF7 xenograft tissue stained for Glucokinase using ab137714 at 1/500 dilution in immunohistochemical analysis.

**Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Glucokinase antibody (ab137714)**

**Western blot - Anti-Glucokinase antibody (ab137714)**

**All lanes**: Anti-Glucokinase antibody (ab137714) at 1/1000 dilution

**Lane 1**: H1299 whole cell lysate

**Lane 2**: HeLa whole cell lysate

Lysates/proteins at 30 µg per lane.

**Predicted band size**: 52 kDa

10% SDS PAGE

Immunofluorescence analysis of paraformaldehyde-fixed A549 cells labelling Glucokinase with ab137714 at 1/200 (panel 1) and co-stained with a DNA probe (panel 2).

**Immunocytochemistry/Immunofluorescence - Anti-Glucokinase antibody (ab137714)**

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