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## Anti-Human Glucokinase Polyclonal Antibody

**CL8880AP**  
**CL8880AP-S**  
**Lot: 168021**

### **DESCRIPTION:**

Glucokinase (GK, hexokinase 4, HK4) is a hexokinase isozyme that catalyzes the ATP dependent phosphorylation of glucose to glucose-6-phosphate, which is the first step of both glycogen synthesis and glycolysis. It is mainly present in the liver, pancreas and glucose-sensitive neurons of the hypothalamus and anterior pituitary.

GK regulates carbohydrate metabolism by acting as a glucose sensor, responding to shifting glucose levels following a meal or when fasting<sup>1</sup>. Under fasting, low glucose conditions GK is bound in an inactive state to the glucokinase regulatory protein (GKRP) and sequestered to the nucleus. As blood glucose levels rise following a meal active GK is rapidly released from GKRP and translocates to the cytoplasm to carry out its function<sup>2</sup>.

GK plays an important role in modulating insulin secretion and facilitating the uptake and conversion of glucose to glycogen. Mutations in GK have been shown to cause different forms of diabetes and hypoglycemia<sup>3</sup>.

### **PRESENTATION:**

100 µg (**CL8880AP**) or 20 µg (**CL8880AP-S**) purified IgG buffered in PBS and 0.02% NaN<sub>3</sub>. (Purified from serum via Affinity Chromatography). For maximum recovery of contents, spin down tube before use.

### **STORAGE/STABILITY:**

Store at + 4°C. For long term storage, aliquot and freeze unused portion at -20°C in volumes appropriate for single usage. Avoid freeze/thaw cycles.

### **SPECIFICATION:**

**Immunogen:** 11 amino acid synthetic peptide located near the N-terminus of human glucokinase.

**Specificity:** This antibody is specific for human glucokinase.

**IgG Class:** Rabbit IgG

**Application:** This antibody is suitable for use in ELISA, Western Blot (0.001µg/mL) and Immunohistochemistry with paraffin embedded sections (2 µg/mL). This antibody has not been tested in other applications.

*Continued Overleaf.....*

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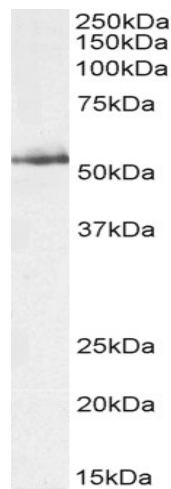
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## **TEST RESULTS:**

### **Western Blot:**



CL8880AP (0.001 $\mu$ g/ml) staining of a human pancreas lysate (35 $\mu$ g protein in RIPA buffer). Primary incubation was 1 hour. Detected by chemiluminescence.

**N.B.** Appropriate control samples should always be included in any labeling studies.

\* For optimal results in various applications, it is recommended that each investigator determine dilutions appropriate for individual use.

### **REFERENCES:**

1. Kawai S, et al. (2005) **Hypothesis: structures, evolution, and ancestor of glucose kinases in the hexokinase family.** *J Biosci Bioeng.* 99(4):320-30.
2. Iynedjian PB. (2009) **Molecular physiology of mammalian glucokinase.** *Cell Mol Life Sci.* 66(1):27-42.
3. Stoffel M, et al. (1992) **Human glucokinase gene: isolation, characterization, and identification of two missense mutations linked to early-onset non-insulin-dependent (type 2) diabetes mellitus.** *Proc Natl Acad Sci U S A.* 89(16):7698-702.

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