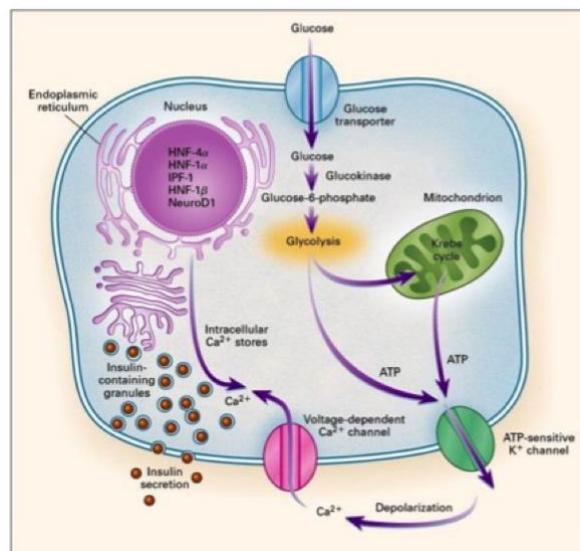


GCK-MODY (MODY 2)



Overview:

Diabetes caused by genetic changes (sometimes called ‘mutations’) in the *glucokinase* (*GCK*) gene is one of the most common types of MODY. We call this GCK-MODY. This type of MODY used to be called MODY 2. The glucokinase (*GCK*) gene contains instructions for an enzyme also called glucokinase that regulates insulin production.

Presentation:

People with GCK-MODY typically have mildly elevated fasting blood sugar in the morning. Elevated morning blood sugars are usually picked-up incidentally by health care providers such as during a sports or school physical or during a pregnancy evaluation. GCK-MODY does not usually cause symptoms associated with very high blood sugars. These changes in *GCK* can occur spontaneously, such as when a person does not inherit the change from their parent, but usually the genetic changes are passed on from a parent to a child. If a parent has GCK-MODY, there is a 50% chance that their child will inherit the genetic change and have lifelong, mildly high fasting blood sugars.

Distinguishing GCK-MODY from Type 1, Type 2 diabetes, or prediabetes can be difficult. Features that make us suspect GCK-MODY include:

- Negative antibody testing. These tests are typically done around the time of diabetes diagnosis and, if positive, indicate an autoimmune type of diabetes such as Type 1 diabetes.
- Persistently detectable C-Peptide. This is a test that tells us if your body is still making any insulin on its own.
- Fasting blood sugars of 100-140 mg/dl (5.6-7.5 mmol/l) for many years
- An HbA1c that does not go over 7.8%
- Blood sugars rarely ever above 250 mg/dl (14 mmol/l)
- No history of diabetic ketoacidosis
- A strong family history of high blood sugars - 2 or 3 generations of high blood sugars diagnosed at a young age

Treatment:

Treatment for GCK-MODY is typically not recommended if the mildly raised blood sugars remain stable.

Women with GCK-MODY may require treatment when pregnant. If you or a family member become pregnant and have GCK-MODY, please contact us.

Inheritance:

Finding out someone has GCK-MODY may have implications for other family members as those family members may also have GCK-MODY. A child of a person with GCK-MODY will have a 50% chance of inheriting the genetic change and having lifelong mildly high fasting blood sugars.

Research:

If you or a family member have GCK-MODY, or think you may have it, then please contact us at monogenicdiabetes@uchicago.edu to learn more about our studies.