

Insulin and Incretins:

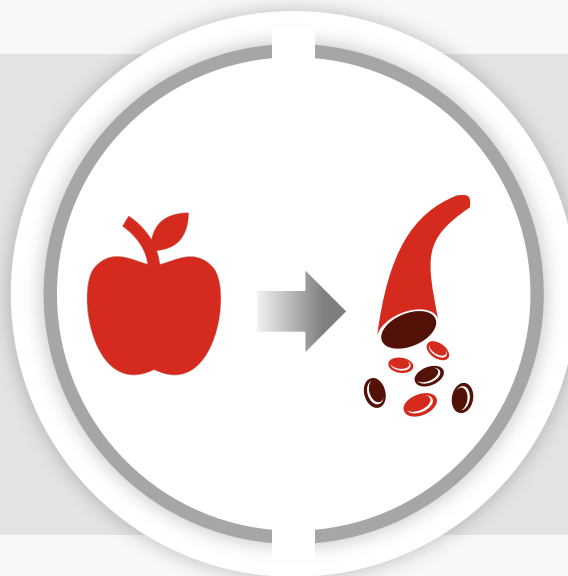
What They Are and How They Are Different?

Understanding Glucose (Sugar) Use in Your Body

Food to Sugar: During digestion, your digestive system breaks down the food you eat into simpler substances like sugar that can travel in the blood, as well as the building blocks of protein and fat. These simpler forms are then used for energy.

Let's Focus on Sugar

When we eat food, the gut tells an organ in the body called the pancreas to release insulin.

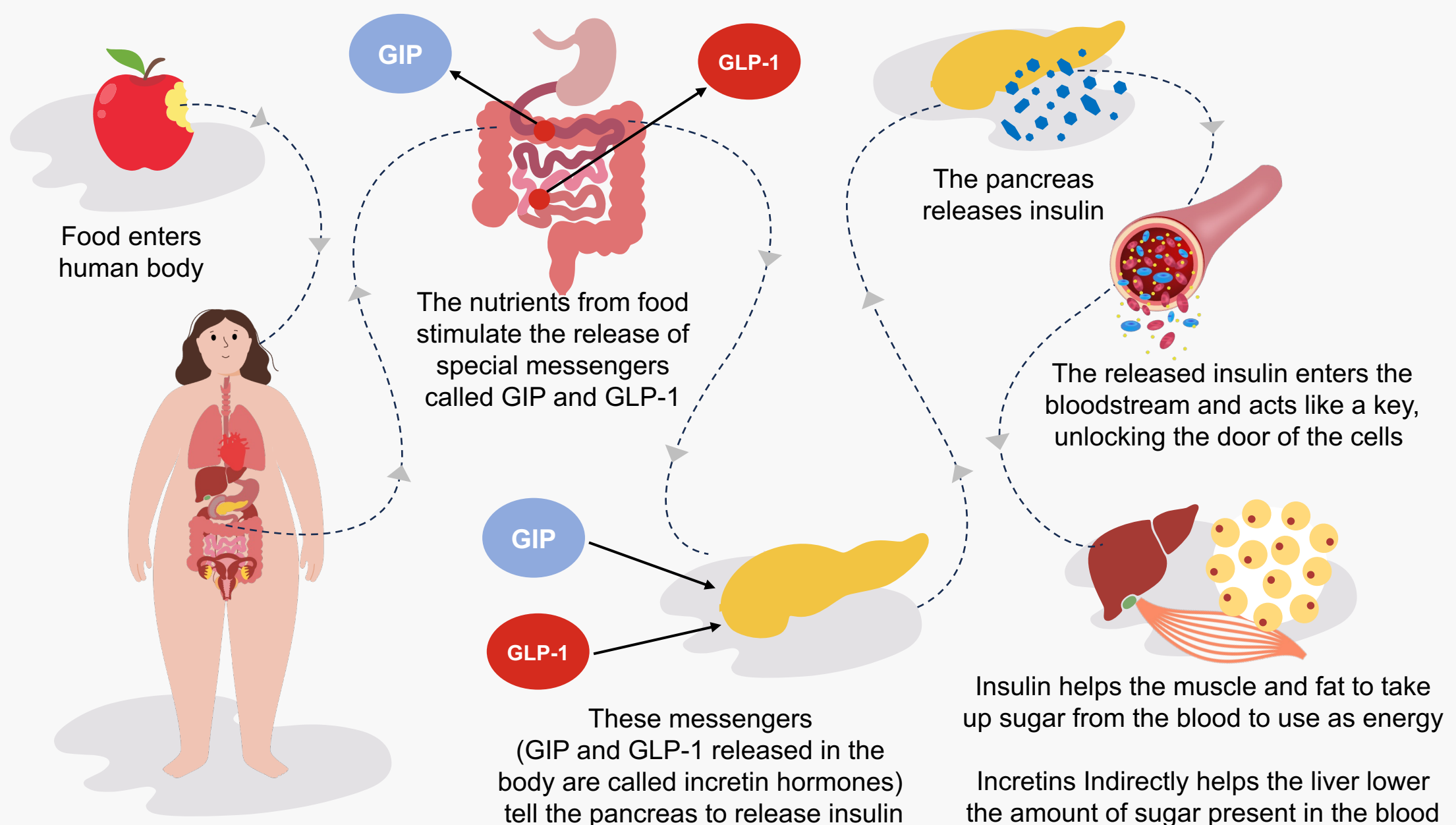


Insulin (a hormone produced by the pancreas that plays a crucial role in regulating blood sugar [glucose] levels) acts like a key that unlocks the cells' doors, allowing sugar to enter the tissues and be used for energy.

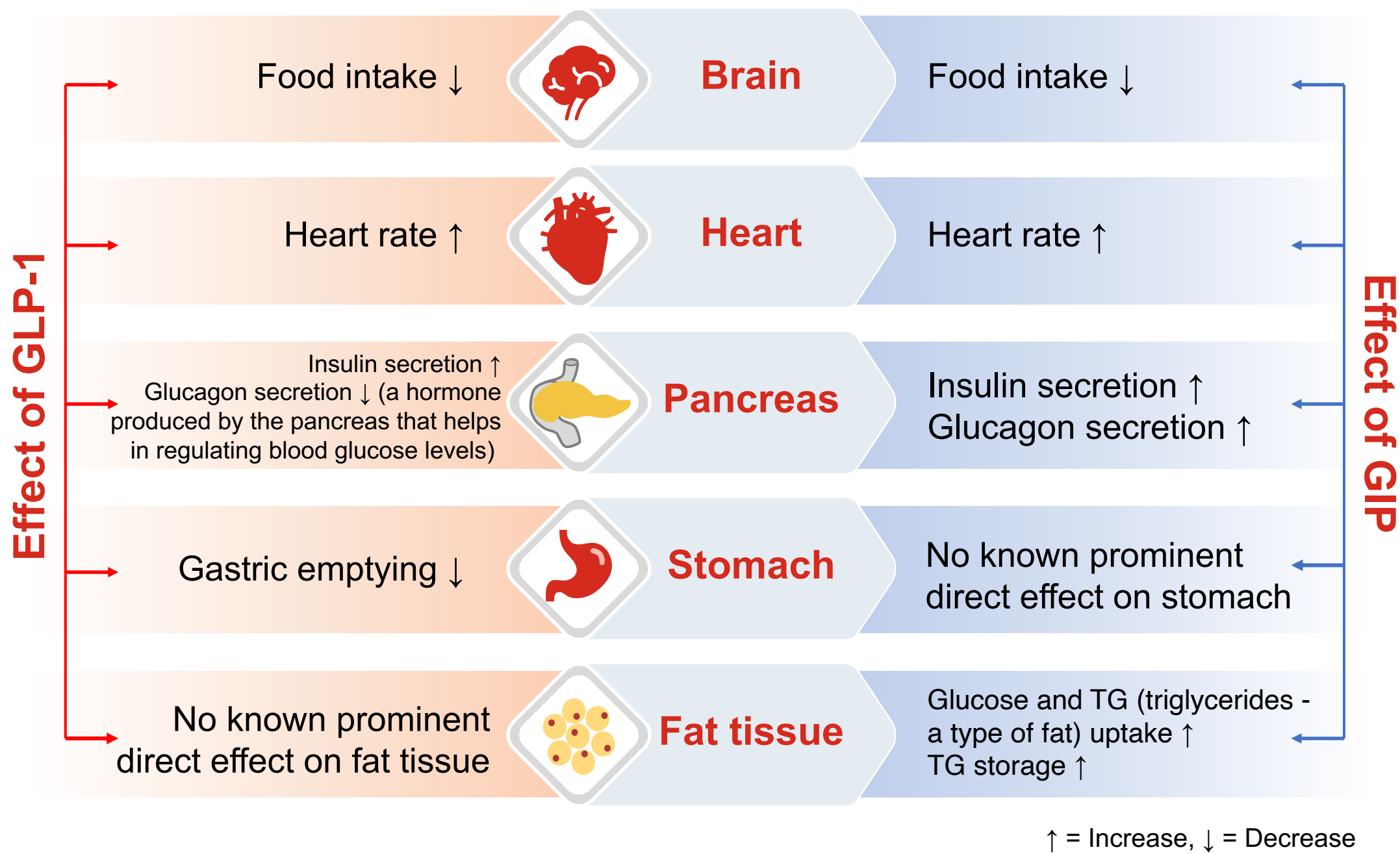
Incretin Hormones

- In response to food intake, special messengers called incretin hormones, namely **glucose-dependent insulinotropic polypeptide (GIP)** and **glucagon-like peptide 1 (GLP-1)** are secreted by the intestines/gut
- GIP and GLP-1 send signals to the pancreas to release more insulin in response to the sugars from food
- This insulin released sends signals to key tissues that help regulate blood sugar levels
- These tissues include skeletal muscle, fat tissue, and the liver

Understanding the Role of Incretin Hormones and Insulin in Blood Sugar Regulation



GIP and GLP-1 May Act Differently on Other Organs



In people with type 2 diabetes, the incretin hormones, GIP and GLP-1, are still produced, but the effect they have on stimulating the release of insulin in response to food is reduced. This contributes to higher blood sugars after meals.

Key Takeaways

- Incretin and insulin hormones help your body use the energy from the food you eat
- Incretin hormones, like GIP and GLP-1, naturally occur in your body and are important for release of insulin from your pancreas.
- For people with type 2 diabetes, their cells don't respond well to insulin (which is known as insulin resistance).
- Your blood sugar remains high, which causes your pancreas to keep releasing more insulin to make your cells respond.
- Eventually, your pancreas can not keep up and your blood sugar keeps increasing.
- To help manage high blood sugar, some people with type 2 diabetes might be prescribed insulin medicine that helps their cells use sugar for energy.
- Others might get medicine that acts like incretin hormones to help their pancreas release more insulin and perform other helpful actions in the body.

Always consult with your healthcare team to know how these incretin-based medicines or injections can help improve your condition.