

GLP-1 stands for glucagon-like peptide-1. It is a hormone made naturally in the gut, mostly in the small intestine, that plays a big role in controlling blood sugar. When a person eats, GLP-1 is released into the bloodstream, signaling the body to prepare for incoming glucose (sugar from food). It is part of the body's normal way of keeping energy balanced.

One of the main actions of GLP-1 is to help the pancreas release insulin. Insulin is the hormone that lowers blood sugar by moving glucose from the blood into the body's cells, where it can be used for energy. At the same time, GLP-1 reduces the release of another hormone called glucagon, which normally raises blood sugar. This two-sided action helps prevent blood sugar from going too high after meals.

GLP-1 also slows down how fast food leaves the stomach. This delay is called "gastric emptying." By slowing the process, glucose enters the bloodstream more gradually instead of all at once. This steady release helps avoid sharp spikes in blood sugar and can make a person feel full longer, which reduces appetite.

Because of these effects, GLP-1 has become very important in medicine, especially for people with type 2 diabetes. Some people with diabetes do not produce or use insulin well, so their blood sugar stays high. Medicines called GLP-1 receptor agonists are designed to mimic the natural hormone, giving extra help in lowering blood sugar levels and improving how the body uses food for energy.

These GLP-1 medicines are also used for weight loss. Since they slow stomach emptying and reduce appetite, people tend to eat less, which can lead to gradual weight reduction. That is why drugs like semaglutide (Ozempic, Wegovy) and liraglutide (Saxenda) have gained so much attention. They are not just for controlling diabetes but also for helping people manage weight when diet and exercise alone are not enough.

However, GLP-1 medicines can have side effects. Common ones include nausea, vomiting, and diarrhea, especially when first starting the treatment. Because food leaves the stomach more slowly, some people may feel bloated or too full. These effects often improve over time, but they remind us that the hormone is powerful and changes how digestion works.

Researchers are studying GLP-1 for even more uses. Beyond diabetes and weight control, scientists are looking at how it may help the heart, reduce risk of stroke, and possibly protect the brain. Early studies suggest GLP-1 may support memory and reduce inflammation, but these areas are still being explored.

In summary, GLP-1 is a hormone that helps manage blood sugar, insulin, and appetite. Its natural role in the body is essential for balancing energy after meals, and its medical versions have become breakthrough treatments for diabetes and weight management. Understanding how GLP-1 works shows how one small hormone can have big effects on health.