IJARSCT
ISSN (Online) 2581-9429
International Journal of Advanced Research in Science, Communication and Technology (IJARSCT)
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
Impact Factor: 7.301
Volume 3, Issue 2, December 2023

Insulin's Function in Health and Disease

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Abstract: *Insulin is a polypeptide hormone that is primarily released by cells in the pancreatic islets of Langerhans. The hormone may work in tandem with glucagon to control blood sugar levels; glucagon has catabolic properties while insulin has anabolic ones. Insulin controls blood glucose levels and causes the liver, muscles, and adipose tissue to store glucose, which causes total weight gain. Insulin plays a crucial role in the initiation and development of many chronic diseases because it modulates a variety of physiological processes.*

Other techniques are based on the exogenous infusion of glucose or insulin, or both, either under steady-state (the insulin suppression test) or under dynamic conditions (the insulin tolerance test, intravenous glucose-tolerance test with minimal model analysis, and constant infusion of glucose with model analysis). Homeostatic model assessment uses fasting plasma glucose and insulin concentrations to derive indices of insulin sensitivity and secretion from a mathematical model.

Keywords: glucose, homeostasis, control, illness, and insulin

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