

## Insulin Dysfunction

**Insulin** (from Latin insula, "island", as it is produced in the Islets of Langerhans in the pancreas) is a polypeptide hormone that regulates carbohydrate metabolism. Apart from being the primary effector in carbohydrate homeostasis, it also has a substantial effect on small vessel muscle tone, controls storage and release of fat (triglycerides) and cellular uptake of both amino acids and some electrolytes. In this last sense, it has anabolic properties. Its concentration (more or less, presence or absence) has extremely widespread effects throughout the body.

**Insulin is used medically** in some forms of diabetes mellitus. Patients with Type 1 diabetes mellitus depend on exogenous insulin (injected subcutaneously) for their survival because of an absolute deficiency of the hormone; patients with Type 2 diabetes mellitus have either relatively low insulin production or insulin resistance or both, and a non-trivial fraction of Type 2 diabetics eventually require insulin administration when other medications become inadequate in controlling blood glucose levels.

- **Insulin has the empirical formula C<sub>257</sub>H<sub>383</sub>N<sub>65</sub>O<sub>77</sub>S<sub>6</sub>.**
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**Tags:** autoimmune disease, blood sugar, diabetes, dysglycemia, gestational diabetes, glucose, glycemic, hyperinsulinemia, hyperglycemia, hypoglycemia, immune system, insulin, insulin dysfunction, insulin resistance, juvenile diabetes, metabolic syndrome, metabolism, metabolitis, pancreas, pancreatic insufficiency, serum glucose level, Syndrome X, Type 2 diabetes, Type 1 diabetes

**NOTE:** Any recommendations are based on general conditions and are not specific to the individual. It is strongly recommended that anyone seeking the most effective treatment do so through the specific recommendations of a licensed and qualified healthcare professional.