Human Insulin 30 70

== Function == 79d36c03e8 The common side effect is low blood sugar. Other side effects may include pain or skin changes at the sites of injection, low blood potassium, and allergic reactions. Use during pregnancy is relatively safe for the baby. Regular insulin can be made from the pancreas of pigs or cows. Human versions can be made either by modifying pig versions or recombinant technology. 79d36c03e8 Insulin degludec/insulin aspart is indicated for the treatment of diabetes mellitus in adults, adolescents and children from the age of two years. 79d36c03e8

Lente insulin Lente insulin (from Italian lento, "slow"; also called insulin zinc suspension) was an intermediate-duration insulin that is no longer used in humans. The Lente insulin (from Italian lento, "slow"; also called insulin zinc suspension) was an intermediate-duration insulin that is no longer used in humans. The onset of lente insulin is one to two hours after the dose is administered, and the peak effect is approximately 8 to 12 hours after administration, with some effects lasting over 24 hours 79d36c03e8

Insulin resistance Insulin is a hormone Insulin resistance (IR) is a pathological response in which cells in insulin-sensitive tissues in the body fail to respond normally to the hormone insulin or downregulate insulin receptors in response to hyperinsulinemia. hormone insulin or downregulate insulin receptors in response to hyperinsulinemia. Insulin resistance is a major cause of type 2 diabetes. Insulin resistance is a major cause of type 2 diabetes 79d36c03e8

Lente insulin arose from research into ways to alter the pharmacokinetics of bovine or porcine insulin products. Prior to the late 1940s, insulin products were derived from pork or beef sources, and then used virtually unaltered as "short-acting" insulin products. It was known by 1950 that the addition of protamine or zinc could alter the duration of action of these insulin products, and in 1952, K. Hallas-Møller at Novo Nordisk produced the first commercial insulin zinc suspension for use in humans... 79d36c03e8 Insulin lispro is used to treat people with type 1 diabetes or type 2 diabetes. People doing well on short-acting insulin should not routinely be changed to... 79d36c03e8 == History == 79d36c03e8 Insulin was first used as a medication in Canada by Charles Best and Frederick Banting in 1922. It is on the World Health Organization's List of Essential Medicines. In 2017, it was the 209th most commonly prescribed medication in the United States, with more than 2 million prescriptions... 79d36c03e8 Insulin can be made from the pancreas of pigs or cows. Human versions can be made either by modifying pig versions, or recombinant technology using mainly E. coli or... 79d36c03e8 Mice lacking IRS2 have a diabetic phenotype as well as a 40% reduction in brain mass. 79d36c03e8 == Medical uses == 79d36c03e8 Insulin degludec and insulin aspart are slightly different from human insulin. The differences mean that insulin degludec is absorbed more slowly by the body. This means it has a long duration of action. Meanwhile, insulin aspart is absorbed faster by the body than human insulin, and therefore it starts to work as soon as it is injected and has a short duration of action. 79d36c03e8

Insulin lispro from an insulin pump. Onset of effects typically occurs within 30 minutes and lasts about 5 hours. Often a longer-acting insulin like insulin NPH is also Insulin lispro, sold under the brand name Humalog among others, is a modified type of medical insulin used to treat type 1 and type 2 diabetes. Onset of effects typically occurs within 30 minutes and lasts about 5 hours. Often a longer-acting insulin like insulin NPH is also needed. It is delivered subcutaneously either by injection or from an insulin pump 79d36c03e8

Insulin degludec/insulin aspart It is given as an injection under the skin in the abdominal wall (at the front of the waist), upper arm or thigh. It contains insulin degludec and insulin aspart. 30 June 2020. Retrieved 26 July 2020. "Insulin aspart / insulin degludec (Ryzodeg 70/30) Use During Pregnancy". com. Drugs. action. "Ryzodeg 70/30 FlexTouch Insulin degludec/insulin aspart, sold under the brand name Ryzodeg, is a fixed-dose combination medication for the treatment of diabetes mellitus 79d36c03e8

== Medical uses == 79d36c03e8

Insulin-like growth factor 1 IGF1 consists of 70 amino acids in a single Insulin-like growth factor 1 (IGF1), also called somatomedin C, is a hormone similar in molecular structure to insulin which plays an important role in childhood growth, and has anabolic effects in adults. IGF1 is a protein that in humans is encoded by the IGF1 gene. "nonsuppressible insulin-like activity" (NSILA). In the 1950s IGF1 was called "sulfation factor" because it stimulated sulfation of cartilage in vitro, and in the 1970s due to its effects it was termed "nonsuppressible insulin-like activity" (NSILA) 79d36c03e8

Insulin is a hormone that facilitates the transport of glucose from blood into cells, thereby reducing blood glucose (blood sugar). Insulin is released by the pancreas in response to carbohydrates consumed in the diet. In states of insulin resistance, the same amount of insulin does not have the same effect on glucose transport and blood sugar levels. There are many causes of insulin resistance and the underlying process is still not completely understood. Risk factors for insulin resistance include obesity, sedentary lifestyle, family history of diabetes, various health conditions, and certain medications. Insulin resistance is considered a component of the metabolic syndrome. Insulin resistance can be improved or reversed with lifestyle approaches, such as weight reduction, exercise, and dietary changes. 79d36c03e8 Initially, transcription of alternative splice variants... 79d36c03e8 Techniques to test for the presence or extent of insulin resistance include measurement of fasting insulin... 79d36c03e8 Common side effects include low blood sugar, allergic reactions, itchiness, and pain at the site of injection. Other common side effects may include injection site reactions, itching, rash, lipodystrophy (skin thickening or pitting at the injection site), weight gain and swelling of hands and feet. Other serious side effects may include low blood potassium (hypokalemia), low blood sugar (hypoglycemia), and severe allergic reactions. Use in pregnancy and breastfeeding is generally safe. It works the same as human insulin by increasing the amount of glucose that tissues take in and decreasing the amount of glucose made by the liver. It is a manufactured form of human insulin; where a single amino acid has been changed, specifically a proline with an aspartic acid at the B28 position. 79d36c03e8 IGF1 is a protein that in humans is encoded by the IGF1 gene. IGF1 consists of 70 amino acids in a single chain with three intramolecular disulfide bridges. IGF1 has a molecular weight of 7,649 daltons. In dogs, an ancient mutation in IGF1 is the primary cause of the toy phenotype. 79d36c03e8

Insulin aspart Novolog Mix 70/30 is a product which contains 30% insulin aspart and 70% insulin aspart protamine. It is generally used

by injection under the skin (into the abdomen, buttocks, thighs, or upper arms) but may also be used by injection into a vein. with external insulin pumps. The insulin aspart protamine Insulin aspart, sold under the brand name Novolog, among others, is a modified type of medical insulin used to treat type 1 and type 2 diabetes 79d36c03e8

Insulin (medication) There are various types of insulin, suitable for various time spans. Insulin can be made from the pancreas of pigs or cows. Insulin is also used along with glucose to treat hyperkalemia (high blood potassium levels). In 2023, it was the 157th most commonly prescribed medication in the United States, with more than 3 million prescriptions. It is on the World Health Organization's List of Essential Medicines. Typically it is given by injection under the skin, but some forms may also be used by injection into a vein or muscle. Human versions can be made either by modifying pig As a medication, insulin is any pharmaceutical preparation of the protein hormone insulin that is used to treat high blood glucose. The types are often all called insulin in the broad sense, although in a more precise sense, insulin is identical to the naturally occurring molecule whereas insulin analogues have slightly different molecules that allow for modified time of action. Such conditions include type 1 diabetes, type 2 diabetes, gestational diabetes, and complications of diabetes such as diabetic ketoacidosis and hyperosmolar hyperglycemic states. States, with more than 3 million prescriptions 79d36c03e8

Lente insulin products, along with other insulin analogs in the same family, were discontinued by their manufacturers in the mid-2000s, and are no longer permitted to be marketed for use in humans in the US. This was in part because health care providers began to favor more predictable forms of insulin, such as recombinant NPH insulin. 79d36c03e8 Insulin lispro was first approved for use in the United States in 1996. It is a manufactured analogue of human insulin where two amino acids have swapped positions. In 2023, it was the 84th most commonly prescribed medication in the United States, with more than 8 million prescriptions. It is on the World Health Organization's List of Essential Medicines. 79d36c03e8 == Structure == 79d36c03e8 This gene encodes the insulin receptor substrate 2, a cytoplasmic signaling molecule that mediates effects of insulin, insulin-like growth factor 1, and other cytokines by acting as a molecular adaptor between diverse receptor tyrosine kinases and downstream effectors. The product of this gene is phosphorylated by the insulin receptor tyrosine kinase upon receptor stimulation, as well as by an interleukin 4 receptor-associated kinase in response to IL4 treatment. 79d36c03e8 Common side effects include low blood sugar. Other serious side effects may include low blood potassium. Use in pregnancy and breastfeeding is generally safe. It works the same as human insulin by increasing the amount of glucose that tissues take in and decreasing the amount of glucose made by the liver. 79d36c03e8 It was approved for medical use in the European Union in January 2013, and in Australia in November 2017. 79d36c03e8

Regular insulin (Concentrated) insulin human injection, USP (rDNA Origin) is a stronger concentration (500 units/mL) of Humulin R. Onset of effect is typically in 30 minutes and it typically lasts for 8 hours. Typically it is given by injection under the skin, but may also be used by injection into a vein or muscle. It is also used along with glucose to treat high blood potassium levels. It is used to treat type 1 diabetes, type 2 diabetes, gestational diabetes, and complications of diabetes such as diabetic ketoacidosis and hyperosmolar hyperglycemic states. Humulin 70/30 (70% human insulin isophane Regular insulin, also known as neutral insulin and soluble insulin, is a type of short-acting medical insulin 79d36c03e8

Insulin receptor substrate 2 This gene encodes the insulin receptor substrate 2, a cytoplasmic Insulin receptor substrate 2 is a protein that in humans is encoded by the IRS2 gene. Insulin receptor substrate 2 is a protein that in humans is encoded by the IRS2 gene 79d36c03e8

The most frequently reported side effect is hypoglycemia (low blood glucose levels). 79d36c03e8 Low IGF1 levels are associated with cardiovascular disease, while high IGF1 levels are associated with cancer. Mid-range IGF1 levels are associated with the lowest mortality... 79d36c03e8

Insulin receptor Metabolically, the insulin receptor plays a key role in the regulation of glucose homeostasis; a functional process that under degenerate conditions may result in a range of clinical manifestations including diabetes and cancer. The insulin receptor (IR) is a transmembrane receptor that is activated by insulin, IGF-I, IGF-II and belongs to the large class of receptor tyrosine kinase The insulin receptor (IR) is a transmembrane receptor that is activated by insulin, IGF-I, IGF-II and belongs to the large class of receptor tyrosine kinase. Downstream post-translational events of either isoform result in the formation of a proteolytically cleaved α and β subunit, which upon combination are ultimately capable of homo or hetero-dimerisation to produce the ≈320 kDa disulfide-linked transmembrane insulin receptor. Biochemically, the insulin receptor is encoded by a single gene INSR, from which alternate splicing during transcription results in either IR-A or IR-B isoforms. When insulin falls, especially in those with high insulin sensitivity, body cells begin only to have access to lipids that do not require transport across the membrane. Insulin signalling controls access to blood glucose in body cells. So, in this way, insulin is the key regulator of fat metabolism as well 79d36c03e8

IGF1 is produced primarily by the liver. Production is stimulated by growth hormone (GH). Most of IGF1 is bound to one of 6 binding proteins (IGF-BP). IGFBP-1 is regulated by insulin. IGF1 is produced throughout life; the highest rates of IGF1 production occur during the pubertal growth spurt. The lowest levels occur in infancy and old age. 79d36c03e8 Insulin aspart was approved for medical use in the United States in 2000. In 2023, it was the 102nd most commonly prescribed... 79d36c03e8