

# Insulin

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Period 8

## Insulin Location

Insulin is produced in the pancreas and released into the bloodstream.

## Insulin Function

Regulates metabolism of carbohydrates, lipids and proteins by promoting absorption of glucose from the blood stream into fat, liver and skeletal muscle tissues, where glucose is converted into glycogen or triglycerides (fat). The presence of Insulin strongly inhibits production and secretion of glucose by the liver. Presence of Insulin promotes anabolism (creating bonds), while low concentrations of Insulin promote widespread catabolism (breaking bonds).

## Importance of Insulin

Insulin is a hormone made by the pancreas which allows the body to use the sugar from the carbohydrates that we eat. This helps keep your blood sugar from getting too high. Sugar can not go into most of your cells directly, so when you eat food and your blood sugar rises the pancreas releases insulin into the bloodstream. It then attaches to signal cells and absorbs the sugar from the bloodstream. "Insulin is often described as a "key," which unlocks the cell to allow sugar to enter the cell and be used for energy."

## Scientific Article

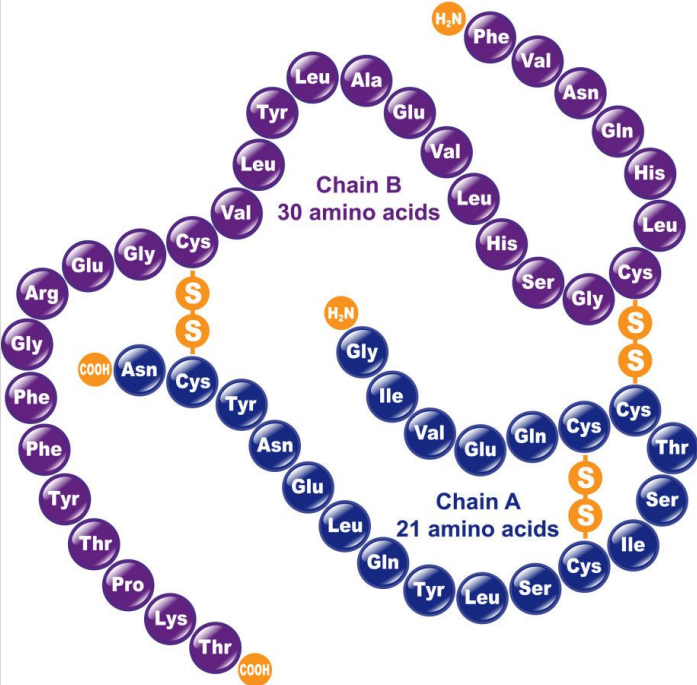
### Transforming Skin Cells into Insulin Cells

The world is now one step closer to curing diabetes. Researchers at the University of Bergen are transforming skin cells into insulin producing cells through the use of stem cell techniques. They are hoping to eventually be able to replace insulin shots and blood sugar measurements with insulin-secreting cells capable of automatically secreting insulin in response to the blood sugar level.

University of Bergen. "Transforming skin cells to insulin." ScienceDaily. ScienceDaily, 9 August 2017. <[www.sciencedaily.com/releases/2017/08/170809073709.htm](http://www.sciencedaily.com/releases/2017/08/170809073709.htm)>.



# Human Insulin



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