

INSULIN H

SEDICO Pharmaceuticals pays a great attention to public health care; one of our major issues of interest is **DIABETES**.

DIABETES is one of the most dangerous diseases that occupy the one of the major interests worldwide because of its great dangerous reflections on the public health and even on the national economy.

Special points of interest

How Human Insulin is Produced

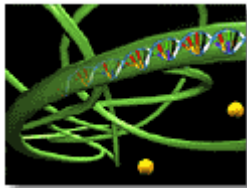
Healthy Food Guide

SEDICO Insulin H

1. How Human Insulin is Produced

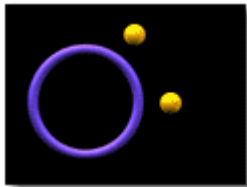
Demo Flash

Step by Step Insulin Production



1. Isolate The Insulin Gene

The gene for producing HUMAN insulin protein is isolated. The gene is part of the DNA in a human chromosome. The gene can be isolated and then copied so that many insulin genes are available to work with



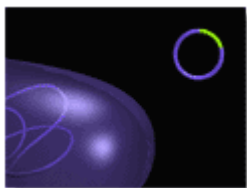
2. Prepare Target DNA

In 1973, two scientists named Boyer and Cohen developed a way to take DNA from one organism and put it in the DNA of bacterium - using the E.Coli bacteria as a FACTORY. This process is called recombinant DNA technology. First, a circular piece of DNA called a plasmid is removed from a bacterial cell. Special proteins are used to cut the plasmid ring open.



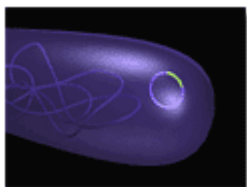
3. Insert DNA into Plasmid

With the plasmid ring open, the gene for insulin is inserted into the plasmid ring and the ring is closed - by another special enzyme-. The human insulin gene is now recombined with the bacterial DNA plasmid.



4. Insert Plasmid back into cell

The bacterial DNA now contains the human insulin gene and is inserted into a bacteria. Scientists use very small needle syringes to move the recombined plasmid through the bacterial cell membrane.



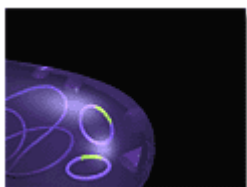
5. Plasmid multiply

Many plasmids with the insulin gene are inserted into many bacterial cells. The cells need nutrients in order to grow, divide, and live. While they live, the bacterial cell processes turn on the gene for human insulin and the insulin is produced in the cell. When the bacterial cells reproduce by dividing, the human insulin gene is also reproduced in the newly created cells.



6. Target Cells Reproduce

Human insulin protein molecules produced by bacteria are gathered and purified. The process of purifying and producing cow and pig insulin has been greatly reduced or eliminated.



7. Cells Produce Proteins





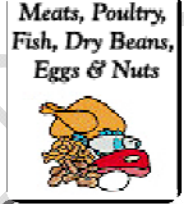


Millions of people with diabetes now take human insulin produced by bacteria or yeast (biosynthetic insulin) that is genetically compatible with their bodies, just like the perfect insulin produced naturally in your body.

2. Healthy Food Guide

Your "Healthy Food Guide" gives ideas about what kinds of foods are good for you.

Remember, this is only a guide.

Talk with your doctor or dietitian about making a meal plan just for you.

 <p>Use dark green and orange vegetables as often as you can</p>	<p>Aim for 2 1/2 to 3 cups a day. Here are choices that equal 1 cup:</p> <ul style="list-style-type: none"> • 1 cup cut up raw or cooked or vegetables • 2 cups leafy salad greens • 1 cup vegetable juice
	<p>Aim for 3 cups a day. Here are choices that equal 1 cup:</p> <ul style="list-style-type: none"> • 1 cup nonfat or low-fat milk or yogurt • 1 1/2 ounces cheese
 <p>Choose fresh whole fruits as often as you can.</p>	<p>Aim for 1 1/2 to 2 cups a day. Here are choices that equal 1 cup:</p> <ul style="list-style-type: none"> • 1 cup cut up raw or cooked fruit • 1 cup fruit juice • 1/2 cup dried fruit
 <p>Choose whole grain foods for at least 3 of your 6 choices.</p>	<p>Aim for 6 to 7 ounces a day. Here are choices that equal 1 ounce:</p> <ul style="list-style-type: none"> • 1/2 cup of cooked cereal • 1/2 cup cooked rice or pasta • 1 cup ready-to-eat cereal • 1 slice of whole grain bread • 1/2 small bagel or 1 small muffin
	<p>Aim for 5 to 6 ounces a day. Here are choices that equal 1 ounce:</p> <ul style="list-style-type: none"> • 1 ounce lean meat, fish, or chicken • 1 egg • 1 tablespoon peanut butter • 1/2 ounce nuts • 1/4 cup cooked dry peas or beans such as kidney, white, split, or black eye • 1/4 cup tofu
	<p>One serving is:</p> <ul style="list-style-type: none"> • 1 teaspoon vegetable, olive, or canola oil • 1 teaspoon tub margarine • 5 large olives or 1/8 avocado • 1 tablespoon low-fat mayonnaise • 2 tablespoons low-fat salad dressing
	<p>If you choose to eat these foods, have a very small amount and not every day.</p>

3. Human Insulin Production in Egypt

Insulin is one of the most important life-saving products for diabetic patients especially those of Type 1 diabetes mellitus

It is very important for diabetic patient to have his insulin therapy at anytime without any interruption otherwise his life will be in a true threat. This irregular availability & frequent shortage of insulin have created a serious crisis in Egypt at that time. Before 2001 there was no **Human Insulin Production in Egypt** and the imported human insulin was the only source of availability. In spite of being low-priced due to the financial support offered by the government; the imported quantities were insufficient to satisfy the Egyptian market requirement, also irregular importing of insulin was another problem.

As a result of our high credit of trust gained from doctors & patients; we **SEDICO Pharmaceuticals** took the responsibility to get the access to a very important & strategic issue which is **Human Insulin Production in Egypt**.

SEDICO is a pioneer company in the manufacture of biotechnology products in Egypt to apply biotechnology and bioengineering for the production and formulation of Biopharmaceutical products.

Biotechnology is a broad term for classic and modern technology for the production of bio-products using micro-organisms on large scale in purified form with less cost.

We have started the big project of insulin production as a new era of production of biotechnology products in collaboration with **Akzo Nobel Corporation** to be the first Egyptian company that formulates human insulin among the very few multinational companies producing insulin.

We produce the different types of **Human Insulin** in different concentrations.

We are Committed to insulin availability at anytime & for All Egyptian Diabetic Patients.

www.sedico.net

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