

Cuba in the Development of Interferon

Back in 1945, a team of young Cuban doctors began to produce Leukocyte Interferon in only 45 days, which many people considered to be a world record

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2012-10-15 | 14:01:37 EST

Some 55 years ago, a breakthrough by Britain Alick Isaacs and Swiss Jean Lindenmann changed the path of science: they discovered Interferon, a protein produced by host cells in response to the presence of viruses.

This new element is named after its ability to interfere with viral replication within host cells. It was found in a number of vertebrates, with specificities in each of them.

The researchers laid emphasis on the biological effects of this substance used for therapeutic treatment. The results include its antiviral and anti-tumoral potentialities and some others related to the immune system also known as immunoregulators.

However, the entire story about Interferon has not been told, where Cuba is the leading character.

For over 30 years, Cuba —as well as a few other developed countries— has produced this product.

After the triumph of the Cuban Revolution back in 1959, the era of modern science in Cuba began. From that moment on, highly-qualified human resources were trained across the country, in the quest to create a "nation of scientists," as Commander in Chief Fidel Castro said.

Cuba's health care system was one of the main targets of this modern era, where the Human Leukocyte Interferon was produced.

Finnish professor Kari Cantell helped us in this quest. His laboratory to produce interferon had been famous since the early 1970s.

Many scientists considered that Cantell's method was one of the most effective at that time.

He received visitors from all over the world and he treated them without any costs, which was not very common at the time.

Then, Cuba requested help from him in the development of this medicament, and he accepted.

Cantell used to ask for the groups to be composed of two scientists. However, Cuba sent six young scientists willing to know how to produce interferon. Cantell certainly wondered why the Cubans were so interested in learning how to produce this product.

This was a unique experience even for Cantell who, after his retirement in 1993, wrote a book and devoted an entire chapter to the Cubans.

Scientific Achievements in Cuba

After their return to Cuba in 1981, the team of young scientists began to work in a house located in the Havana neighbourhood of Atabey. A Finnish collaborator from Cantell's lab came with them.

They took only 45 days to start producing leukocyte interferon, which many people considered to be a world record.

The product began to be implemented right away in the treatment of the dengue epidemic which was then ravaging the island.

Cartoonists Views



Highlights

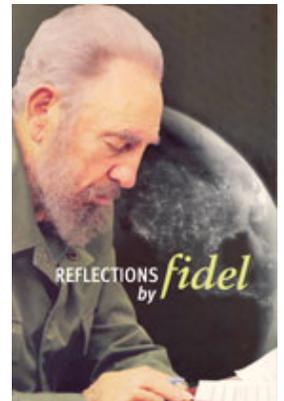


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In 1982, the Center of Biological Research was inaugurated, and its main objective was biotechnological research.

From that moment on, the production capacity of Leukocyte Interferon increased to more than 30,000 vials a year.

Meanwhile, biotechnology began to develop comprehensively to obtain recombinant drugs and vaccines. They also worked with genetic engineering and molecular biology which are also applied to other fields like agricultural and livestock and industrial processes.

Later on, some other young specialists were trained in Cuba and abroad, which contributed to the improvement in the advanced production of interferon via recombinant methods.

At the beginning, it was primarily used to fight cancer. At present, there are some lines of research with new formulations like the PEGylated interferons. They are especially used in the treatment against viral diseases like hepatitis B and C.

With the course of time, some other prestigious entities have been created: Center of Genetic Engineering and Biotechnology (CIGB), Immuno-trial Centre (CIE), and the Center of Molecular Immunology (CIM).

Sources:

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—Kari Cantell, The Story of Interferon: The Ups and Downs in the Life of a Scientist.

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Deputy Directors: Pelayo Terry, Herminio Camacho and Ricardo Ronquillo

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