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A finding, published in the Latin American Herald Tribune, says that a genetic study of people with Down's syndrome helped identify a key gene linked to type 2 diabetes. The outcome of the research can aid the development of new treatments for this metabolic disorder.

An international team, led by Damien Keating, of Flinders University in Australia, compared the genes involved in the defect of insulin secretion in patients with type 2 diabetes with those of people suffering from Down's syndrome. In a long comparison process the scientists could identify, from among 5,000 genes, one known as RCAN1, common to both, said the university in a statement on the study, published in the science journal PLOS Genetics. The scientists then isolated this gene and experimented on mice to see the effects.

"The comparison identified a single gene, RCAN1, which, when overexpressed in mice, causes abnormal mitochondria in their beta cells, produce less ATP and secrete less insulin in the presence of glucose. Many individuals with Down's syndrome experience lower insulin secretion, mitochondrial dysfunction and increased oxidative stress in the insulin-producing beta cells of the pancreas; conditions that also appear in people with Type 2 diabetes," expressed Keating.

Keating added the study's result not only explains why people with Down's syndrome have a tendency to suffer from type 1 diabetes but also reveals the function of a gene that may have an important role in the development of type 2 diabetes in the general population. This discovery is expected to contribute to the development of medicines to improve the function of

pancreatic beta cells and others, to combat diabetes.