BIOMARKERS AND DIAGNOSTIC METHOD FOR MODY NHF1A

A research group from the Biomedical Research Institute of Malaga (IBIMA), Andalusian Public Health System (SAS) and CIBER has developed a new method for the diagnosis and prognosis of the Maturity Onset Diabetes of the Young carrying deleterious HNF1A alleles (MODY HNF1A).

The Need

Monogenic diabetes (MODY) is a rare disorder caused by mutations in a single gene. The most common form of MODY in adults, MODY HNF1A (monogenic diabetes of onset in young adults carriers of deleterious HNF1A alleles) is caused by a mutation in the gene encoding hepatocyte nuclear factor 1 alpha.

The clinical criteria for the diagnosis of these patients by genetic testing overlap with the characteristics of type 1 (DM1) and type 2 (DM2) diabetes, so many people with MODY HNF1A are misdiagnosed, causing the treatments are not adequate and the evolution of the disease is more complex in the long term.

The Solution

Obtaining an accurate diagnosis of MODY NHF1A would allow establishing an adequate treatment that would provide excellent control of this type of diabetes for decades. Even as it is a mostly inherited pathology, the correct diagnosis would facilitate the identification of affected relatives and the planning of emerging gene therapy strategies.

The research group has developed a technology for the diagnosis and prognosis of monogenic-onset diabetes in young adults carrying deleterious HNF1A alleles (MODY HNF1A) by using biomarkers based on microRNAs (miRNAs) and ultrasensitive C-reactive protein (PCR-hs).

Innovative Aspects

- It allows patients to access the appropriate treatment for the pathology, so that the evolution of the disease is as positive as possible, allowing the control of diabetes for decades.
- It is a diagnostic methodology simple to use and to interpret, which allows the development of a commercial kit.
- It would mean a reduction in the costs associated with the current diagnosis of this type of diabetes made through genetic tests.

Stage of Development:

The algorithm has been developed based on the results of the analysis of 80 patient samples, pending validation with a greater number of samples.

Intellectual Property:

- Spanish national patent application (December 2021)
- Suitable for international extensión (PCT application)

Aims

Looking for a partner interested in a license and/or a collaboration agreement to develop and exploit this asset.

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