



MODYTag: Diagnosis of MODY diabetes.

By measuring blood levels of hs-PCR and a panel of miRNAs, MODY diabetes can be diagnosed.



Medical need

Monogenic diabetes or MODY is due to mutations in specific genes, unlike type 1 diabetes (T1D1), due to an inadequate action of the immune system, or type 2 diabetes (T2D2), caused by sedentary lifestyle and obesity.

However, the symptoms are very similar to those of patients with type 1 and type 2 diabetes, which, together with the lack of accessibility to genetic tests based on sequencing, means that around 80% of patients are misdiagnosed.

Technology

Cost-effective diagnostic procedure for MODY patients, based on the quantification of high-sensitivity C-reactive protein (hs-CRP) in combination with a panel of circulating miRNA. The diagnostic method is simple and minimally invasive. The quantification is performed on a blood sample. The analysis of the data is performed by an algorithm developed by the research team that allows the diagnosis of the patient.

Opportunity

Prevalence



2-6% of diabetes patients (11-32M patients).
MODY 3: 30% MODY patients.

Market



The diabetes market size is estimated at \$18.23 billion in 2022, and is expected to reach \$36.02 billion by 2030, with a CARG of 8.87%.

Other solutions



Sequencing using:
- NGS panels: 380€; 8 hours.
- Sanger: 400€; 4 hours.

Results

Two cohorts of patients were used:
- **Discovery cohort** (39 patients): miRNA panel analysis and diagnostic algorithm development.
- **Validation cohort** (105 patients): Analysis revealed a significant association, with 84% efficacy and 90% sensitivity.

Roadmap

IBIMA plataforma BIONAND is looking for a partner to further develop the technology through a co-development or licensing agreement.



Patent:

National patent application
Priority: 31/07/2023



Team:

IBIMA Plataforma BIONAND research group of Endocrinology and Nutrition, Diabetes and Obesity

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