FIBICO– New method of predicting severe alopecia areata using MicroRNAs

Abstract

A research group from the Andalusian Public Health System (SSPA) has identified a series of molecular markers (microRNA) for the early diagnosis of severe alopecia using a predictive model.

Description

Currently there are topical treatments that allow to stop most of the milder forms of alopecia. However, some patients may develop more extensive and severe forms, for which, at the moment, only experimental treatments exist.

For this reason, a predictive model has been created that works using 19 microRNAs, contained in peripheral blood, whose expression is lower in patients with severe alopecia areata. The differences in the expression of this group of microRNAs result in a deregulation of various immunological and metabolic pathways related to the severity of the disease. This makes it possible to know in advance which patients are more likely to suffer from this disease, and through the use of early therapies, check if evolution to a more serious stage can be avoided.

The method of the invention can also be used as a molecular predictor of the therapeutic response to different treatments against alopecia areata. Thanks to the proposed microRNAs, and their differential expression in patients with mild and severe alopecia areata, it is possible to carry out an assessment and repositioning of drugs capable of reversing this state of dysregulation.

Likewise, it is intended to use this model for the creation of a kit or device that uses the levels of microRNAs obtained from peripheral blood samples for the prediction of the possible change of the disease to severe alopecia.

Advantages

1. Anticipation of treatment: potential patients with severe alopecia can be treated prematurely to prevent the disease from progressing to this point.

2. Simple sampling: it requires the analysis of a peripheral blood sample, so it is minimally invasive, unlike current methods that require a skin biopsy.

Industrial/ Intellectual protection

This technology is protected by national patent.

Objective of the Collaboration

Seek a collaboration that leads to the commercial exploitation of the invention presented. The terms and conditions of the license agreement can be openly discussed if the technology presented is of interest

Clasification

Activity/Type: Dermatology
Pathology: severe alopecia areata

Representative Institution and Inventor

The principal investigator behind the innovation is Juan Alberto Ruano Ruiz, a researcher in the GC29 group Immune-mediated skin inflammatory diseases.

The development of the project has been possible thanks to the Andalusian Health Service and the University of Granada.

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