

Diagnostics

Method for the diagnosis of neuromuscular diseases

A research group of the Andalusian Public Health System, in collaboration with the Spanish National Research Council (CSIC) and the University of Seville, has developed an objective procedure to diagnose different neuromuscular diseases. The method is based on the application of the network theory to characterize the organization of tissues and enables to perform comparative histological studies from biopsy of skeletal muscle tissue of a patient.

Oficina de
**TRANSFERENCIA
DE TECNOLOGÍA**
Sistema Sanitario Público de Andalucía



Description

Neuromuscular diseases, encompassing more than 150 chronic neurological diseases, are a group of inherited or acquired diseases characterizes by atrophy and degeneration of skeletal muscles causing progressive muscle weakness.

At present, the diagnosis of neuromuscular diseases is based on visual interpretation, by the pathologist specialist, of the morphological evaluation of biopsies from patients. It incorporates a certain level of subjectivity in the diagnosis of the involvement degree of the disease. Ultimately the diagnosis cannot be quantified in an objective manner.

The present technology presents a method of analysis for diagnosing neuromuscular diseases. The method is based on recent findings that demonstrate the applicability of the network theory to the characterization of tissues. In this way, it is possible to obtain new specific parameters able to characterize a biopsy of skeletal muscle tissue from patients and compare it to healthy people. From this comparison it is possible to determine objectively possible muscle diseases and their degree of involvement.

3. Enables the creation of live databases of neuromuscular diseases by incorporating the characteristic vectors of new biopsies analyzed.



Intellectual Property

This technology is covered by an International Patent Application.



Aims

We are looking for a partner interested in a license and/ or a collaboration agreement to further develop and exploit this innovative technology.



Advantages

1. The method facilitates the pathologist work enabling the analysis of computer images of tissues and getting measurable parameters (based on size, shape and connectivity) which in addition may create a characteristic vector of each sample.
2. The automation of the method enables to get results faster and with greater repeatability compared to the nowadays used method in which a pathologist determines visually the presence or absence of neuromuscular diseases.



Classification

Area: Diagnostic
Pathology: Central Nervous System / Musculoskeletal Disorders