

TOLEROGENIC DENDRITIC CELLS AND THEIR USE IN CELL THERAPY FOR THE TREATMENT OF CROHN'S DISEASE

The present invention relates to a method for obtaining tolerogenic dendritic cells from monocytes conditioned in vitro with immunosuppressants for the treatment of refractory Crohn's disease.

BACKGROUND

Crohn's disease is a chronic immune mediated disease in which loss of tolerance to components of the normal bacterial flora result in chronic inflammation. Crohn's disease may involve any segment of the digestive tract, but most frequently affects the terminal ileum and colon.

Drugs available for the treatment of Crohn's disease fail to induce remission requiring resective surgery in 70% of cases. Furthermore, in some patients surgery cannot be carried out due to disease location or extension (e.g. extensive small bowel lesions). Thus there is a clear need of new forms of treatment for patients representing about 30% of the cases who are resistant to conventional therapies.

Dendritic cells (DCs) are the most potent antigen presenting cells described and are involved significantly in the induction of tolerance against self-antigens and non pathogenic antigens.

This capacity for generating tolerance stimulates their use as eventual innovative therapy for the treatment of Crohn's disease which aims at silencing the dysregulated immune response.

TECHNOLOGY DESCRIPTION

The present invention relates to a method for obtaining tolerogenic dendritic cells from monocytes conditioned *in vitro* with immunosuppressants for the treatment of refractory Crohn's disease.

ADVANTAGES

- New approach that takes advantage from tolerogenic DCs properties as eventual therapeutic application.
- Tolerogenic DCs are capable of inhibiting the responses of T lymphocyte and of generating a population of regulatory T lymphocytes.

CURRENT STAGE OF DEVELOPMENT

AEMPS authorization has been obtained to use tolerogenic DCs for clinical assays in patients with refractory Crohn's disease.

At this moment, a clinical phase I is being performed at Clinical Hospital of Barcelona to asses safety, tolerance and clinical effect of progressive doses of tolerogenic DCs.

GOAL

We are searching companies interested in the co-development and/or acquisition of the license. Experience and Know-how related to cell therapy are needed.

PATENT

A European patent application has been filed (EP11382174.8) on May 2011. Applicants: Hospital Clínic de Barcelona and CIBERehd.

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