COMPOSITIONS FOR USE IN A METHOD OF PROVIDING IMPROVED HEMATOPOIETIC STEM CELL ENGRAFTMENT

A research group from CIBER, CIEMAT and FISS-FJD have developed a new method of providing hematopoietic stem cell enfractment

The Need
Hematopoietic stem cell transplantation is used to treat cancer, blood disorders and other diseases. To facilitate the engraftment, a conditioning step is required. Actual conditioning treatments have man side effects.
A high need exists for finding alternative and effective non-genotoxic conditioning regimen which can avoid side effects through specificity for the hematopoietic stem and progenitors’ cells and not for other cell types or tissues, improves engraftment and ultimately survival.

The Solution
Combination of a monoclonal antibody directed against a protein expressed on hematopoietic cells and a cell mobilization agent to improve cell engraftment in a subject.

Innovative Aspects
- Method applicable to any diseases that can be treated by autologous or allogenic hematopoietic progenitors and stem cell transplant.
- Significant higher exogenous engraftment with therapeutic efficacy, lower risk of engraftment failure and similar kinetics of hematopoietic recovery, thanks to the synergic effect of the method developed.

Stage of Development:
Pre-clinical assays have been performed with human primary cells and mouse disease models, with promising results.

Figure 1. Chart of mice studies performed

Intellectual Property:
- European patent application submitted in August 2023.
- Suitable for PCT application.

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