GENETICALLY MODIFIED MESENCHYMAL STROMAL CELLS TO TREAT GRAFT VERSUS HOST DISEASE (GVHD)

The necessity

Systemic disorder that occurs when the graft's immune cells recognize the host as foreign and attack the recipient's body cells. Common complication after allogeneic hematopoietic stem cell transplant (HCT)

Acute GVHD can occur in up to 50% of patients receiving HCT. The incidence of chronic GVHD ranges from 6% to 80%. More than 10% of patients will die from this complication and Up to 50% patients DO NOT RESPOND STANDARD STEROID TREATMENT.

The solution

The present invention is focused on improving the therapeutic efficacy of mesenchymal stromal cells (MSCs). Firstly, the team generated and performed in vitro efficacy of MSC. They also developed in vivo efficacy of MSCs using an acute inflammation mouse model and Humanized GvHD mouse model.

Innovative aspects

The present invention is focused on improving the therapeutic efficacy of MSCs, particularly by enhancing the migration of MSCs towards inflamed sites and by enhancing the release of immunosuppressive and anti-inflammatory cytokines as compared to standard unmodified MSCs.

Development Status

Ongoing Orphan Drug Designation

Ongoing Patent (Preliminary evaluation)

Ongoing Clinical Trial (First steps)

Intellectual Property

Priority European patent application filed (September, 2020)
Suitable for international extension (PCT application)

Contact Details

Centro de Investigación Biomédica en Red *(CIBER)*
jluque@ciberer.es
otc@ciberisciii.es
https://www.ciberisciii.es/en