# HuMoSC
# Human Monocyte-derived Suppressor Cells

GvHD - TRANSPLANTATION - AUTOIMMUNITY - INFLAMMATION

## COMPETITIVE ADVANTAGE

- Significant **GvHD prevention**
- Can be **generated from autologous or allogenic sources**
- **Immunomodulating action** (no complete immunosuppression as with immunosuppressive drugs)
- **Efficacy not altered** under inflammatory conditions or in presence of immunosuppressive drugs in vitro
- **Synergistic effect** between HuMoSC and immunosuppressants
- **Easy to generate and ready** for use in clinical trials
- **Very stable** and **can be cryopreserved**

## VALIDATION

- Efficacy validated in a **pre-clinical model of humanized mice**
- Mechanism of action mostly elucidated
- **Synergistic effect** between immunosuppressants and HuMoSC validated in mice
- Comparative studies between immunosuppressants and HuMoSC in mice

## APPLICATIONS/MARKETS

- Prevention of GvHD
- Graft rejection
- Autoimmune diseases

## INTELLECTUAL PROPERTY

- French patent application filed on March 19th 2014
- PCT patent application filed on March 13th 2015 (WO2015140077)

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## PRESENTATION

Current treatments for Graft vs Host Disease (GvHD) are based on immunosuppressive drugs; however, efficient only in 50% of the patients and further associated with severe infections.

Cell therapies belong to emerging strategies to prevent lethal GvHD; nevertheless, are negatively affected by the patient inflammatory state and may promote tumor growth.

Contrary to that, we have developed a novel cellular therapy capable to act on such mortality/morbity-associated disease as GvHD. Our unique approach originates in *ex vivo* generation of human suppressor cell subpopulation of monocytic origin, the **HuMoSC**. HuMoSC induce and maintain immune tolerance in hematopoietic stem-cell transplantation thus prevent lethal GvHD in the patients.

HuMoSC significant efficiency leads to further potential application in solid organ transplantation and autoimmune disorders.