

Mimetic lymph nodes for immune cells culture

CSIC has developed a new 3D scaffold that mimics the lymph nodes for the proliferation and differentiation, of immune cells, such as T lymphocytes, ready for immunotherapy applications.

Industrial partners are being sought to collaborate through a patent license agreement.

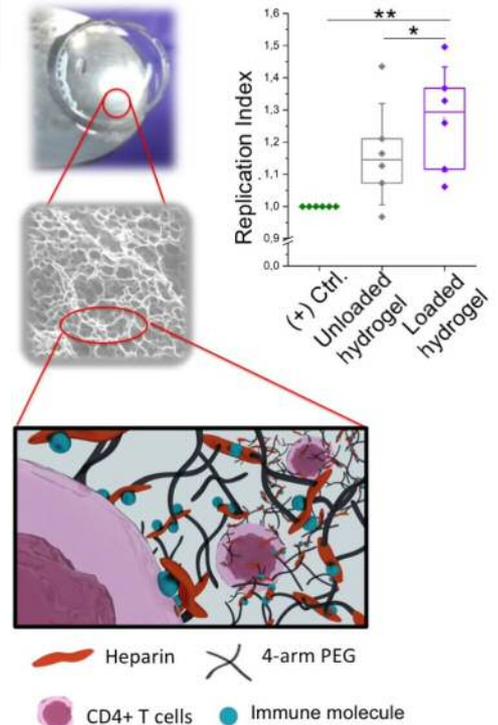
An offer for Patent Licensing

Functionalized PEG hydrogel for 3D culture

Immunotherapy offers a different approach than standard surgery, radiation and chemotherapy procedures against cancer. It is based on employing and reinforcing the immune system of patients, surpassing cancer immunosuppression methods, detecting and eliminating malignant cells without damaging healthy tissues.

Adoptive cell therapy (ACT), a type of personalized immunotherapy that has achieved complete remissions of advanced cancer patients, requires large expansions of immune cells, in order to have relevant quantities of therapeutic cells to be used as “alive drugs”. The implementation of these therapies to the clinics is limited by the current cell expansion methods.

Our mimetic lymph nodes, which are based on a 3D scaffold made of a loadable PEG heparin Hydrogel with immune-relevant molecules, provide higher cell proliferation rates and capacity to tune the obtained phenotypes than the gold standard.



Main innovations and advantages

- Higher cell proliferation rates
- Tunable phenotype proportions
- Different combinations of immune molecules available to customize cell differentiation

Patent Status

European patent application filed suitable of international extension

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