Monoclonal antibody for diagnosis, treatment and / or prevention of T-cell acute lymphoblastic leukemia (T-ALL)

CSIC has identified a receptor that is expressed during T-lymphocyte development (pre-TCR) as a biomarker and therapeutic target of T-ALL that is present on the surface tumor cells responsible for relapses in patients. A new immunotherapy strategy based on the administration of a monoclonal antibody specific for pre-TCR has been developed and validated in a preclinical human T-ALL xenotransplantation model in mice.

Looking for pharmaceutical companies interested in licensing the patent for the commercial development of this therapeutic antibody.

An offer for Patent Licensing

New immunotherapy strategy for T-cell acute lymphoblastic leukemias

T-cell acute lymphoblastic leukemia (T-ALL) is an aggressive tumor, mainly pediatric, that appears due to the oncogenic transformation of T-lymphoid progenitors during their development in the thymus. Although intensive chemotherapy treatments have notably increased the life expectancy of patients in recent years, the frequency of refractory cases is high, and these patients have a poor prognosis, which demands the availability of new therapies directed against the cells Leukemia Initiating Cells (LIC) responsible for relapses. Our researchers have shown that the pre-TCR receptor is expressed on the surface of leukemic cells during all stages of disease progression in a model of human T-ALL generation in mice, as well as in LIC cells from T-ALL patients. It is also demonstrated that pre-TCR is a therapeutic target for the identification, screening or design of compounds, molecules, drugs, etc., useful for the diagnosis, treatment and / or prevention of T-ALL leukemia. The efficacy of a proprietary anti-pre-TCR monoclonal antibody for the treatment of this disease has been validated in a preclinical xenotransplantation model of human T-ALL.

Main innovations and advantages

- The molecular target of this antibody is a receptor selectively expressed during intrathymic development, but absent in peripheral T lymphocytes, which thus prevents adverse effects due to the elimination of normal cells leading to aggressive immunodeficiency.
- It can be used in the diagnosis, treatment and / or prevention of relapses of leukemia, preferably relapses of T-cell acute lymphoblastic leukemia (T-ALL), more preferably relapses of pre-TCR + T-ALL.
- Validated in a preclinical xenotransplantation model of human T-ALL.
- Validated in primary T-ALL cells from patients.

Patent Status

Priority patent application filed suitable for international extension

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