Licensing Opportunity

pactt technology transfer

Partner for an Innovative World

Treatment of Breast Cancer with adoptive immunotherapy

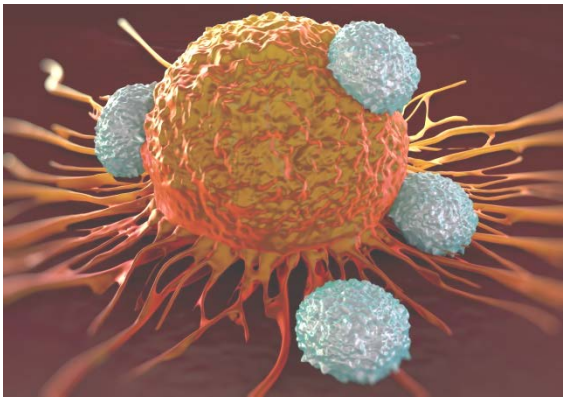
Adoptive Cell Therapy (ACT) with T cells is one of the most important recent advances in oncology. Adoptive T cell therapy consists in expanding at large scale Tumor Infiltrating Lymphocytes (TILs) from tumor fragments ex-vivo followed by TIL infusion into patient. ACT takes advantage of the enriched numbers of tumor-specific T cells which can be found at the tumor site. Ex-vivo expanded TIL attack and kill tumor cells in the patient body. ACT has shown efficacy mainly in metastatic melanoma while limited expansion of functional tumor-specific TILs has been observed in other types of cancer including breast cancer.

DESCRIPTION

The present invention consists in applying to the tumor fragments *ex-vivo* a combination of two kinase inhibitors which induce the re-programing of myeloid suppressor cells into myeloid-derived dendritic cells thus promoting the selective expansion of tumor-specific TILs at very high frequency.

STAGE OF DEVELOPMENT

Thanks to this invention, high numbers of TILs functionally active against the tumor have been obtained in more than 85% of the breast tumors tested covering all histological subtypes of breast cancer. The expansion rate of breast TILs is comparable to the one of melanoma TILs and expanded TILs are fully functional *in vitro* and persist in the peripheral blood of immunocompromised mice.



T-lymphocyte attacking cancer cell

ADVANTAGES

This approach allows for the first time the expansion *ex vivo* of TILs from human breast cancer. TILs can be expanded in large numbers and are functionally active against the tumor. Importantly, a high response rate including long-lasting complete responses could be induced in metastatic melanoma patients following ACT with TILs.

INTELLECTUAL PROPERTY

- Priority date: December 14, 2014
- Patent application WO2016096903 A1, filed in the name of the University of Lausanne and naming as inventors M.A. Doucey, N. Guex, I. Crespo, I. Xenarios.

COLLABORATION OFFER

PACTT offers to grant exclusive or non exclusive license to industrial partners able to develop and commercialize the technology.

PUBLICATION

Guex N. et al, PLOS computational Biology, 2015

REFERENCE

IDF 30/14

UNIL | Université de Lausanne

PACTT TTO UNIL-CHUV
Rue du Bugnon 21
1011 Lausanne
www.pactt.ch

Céline Lafourcade
+41 (0)21 314 49 58
celine.lafourcade@chuv.ch

CHUV