

Licensing Opportunity

miRNA as biomarkers and regulators of Cancer Stem Cells

Breast cancer is the most common cancer in women worldwide. Solid tumor chemoresistance involves a minority of cells within the tumor, called Cancer Stem Cells (CSCs), responsible for tumor regrowth after chemotherapy. To date, it is commonly admitted that additional biomarkers are needed to better predict the failure of neo-/adjuvant systemic therapies and recurrence. miRNA (miR) deregulation has been shown to impact cancer occurrence and resistance to treatment. Therefore these small molecules have emerged as key players in carcinogenesis.

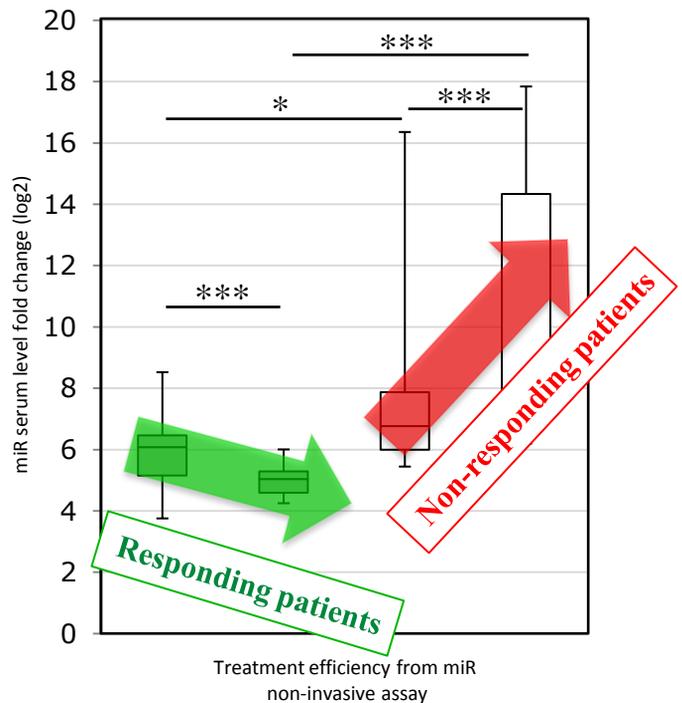
DESCRIPTION

The inventors have now identified a specific miRNA as a marker and regulator of CSCs for early cancer diagnosis and treatment. The miR could be used as molecular marker in the blood for breast cancer detection, as well as for monitoring the effect of chemotherapy, in order to refine therapy if ineffective.

Another aspect developed by the inventors is the use of miR inhibitor in the treatment of breast cancer, breast cancer metastasis, or breast cancer drug resistance, as this miR is required for tumor growth *in vivo*.

STAGE OF DEVELOPMENT

- Inventors validated miR expression in breast cancer cell lines, in human tumors biopsies and in the blood sera of patients enrolled in a neoadjuvant therapy.
- They have also validated the effect of miR inhibition in MCF7 cell line and the *in vivo* effect of miR on tumor formation.



ADVANTAGES

The miR is a specific breast cancer marker which may be advantageously used for early cancer diagnosis, and also to provide an early validation of the efficacy of treatments from non-invasive blood tests.

INTELLECTUAL PROPERTY

EP Patent Application filed on 31th of May 2016 in the name of the UNIL and naming as inventors S. Renaud and N. Mermod.

COLLABORATION TYPE

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

REFERENCE

IDF 24/15