**Diagnostics**

Kit for predicting the risk of recurrence in breast cancer

A research group from the Andalusian Public Health System (SSPA) has developed a kit based on microRNA expression signature to predict the risk of tumor recurrence in patients who have been treated of breast cancer.

>> Oficina de
TRANSFERENCIA DE TECNOLOGÍA
Sistema Sanitario Público de Andalucía
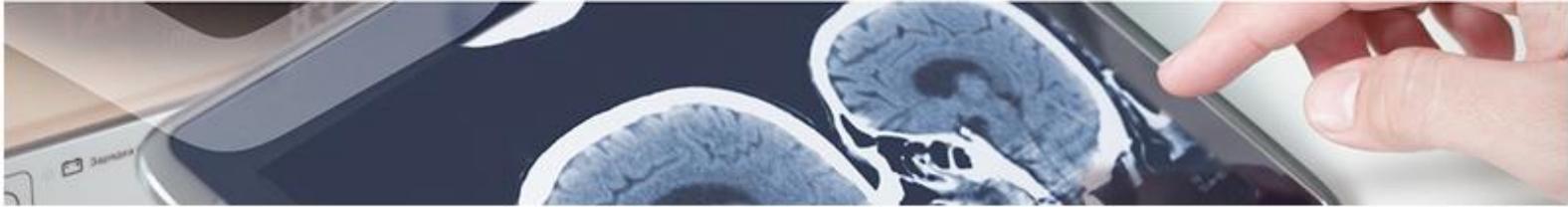
Description

Recurrence in cancer occurs when the disease comes after treatment. There are two types: local or distant (metastasis) and in turn, may be early recurrence (iatrogenic effect resulting from the surgical removal of the primary tumor) or late (natural evolution of the disease).

After resection of the tumor, the risk of relapse (recurrence) is not constant over time. The prediction of early recurrence in breast cancer represents a major challenge in clinical practice, since such recurrence is associated with a more aggressive tumor, fewer treatment options and poor prognosis.

MicroRNAs (miRNAs) negatively regulate gene expression by inhibiting translation of its target mRNA and causing gene silencing. However, to date it has not been documented which particular miRNAs might be associated with early recurrence (<2 years after treatment) of a particular tumor.

Because of this and the need to identify biomarkers to predict the risk of recurrence in breast cancer after surgery or specific treatment, the research group has developed a specific method and kit for determining the risk of recurrence. The kit is based on measuring the expression levels of a set of 5 specific miRNAs to determine the low or high risk of developing breast cancer again.

The results show that the signature set of miRNAs is a very strong predictive value in discriminating tumors from patients who developed early recurrence from those who are free of disease. This value is reflected in obtaining an area under the curve (AUC) of 0.993.

Currently clinical validation studies in different patient cohorts are being undergoing.

Advantages

1. Reliably determines the risk of recurrence in patients treated for breast cancer.

2. It allows the establishment of groups of patients according to risk.

3. Would help in selecting the appropriate therapy.

4. Would allow adequate monitoring of patients.

Intellectual Property

The technology is protected by patent.

Aims

The research group is looking for a license or a collaboration agreement.

Classification

Area: Diagnostic
Pathology: Oncology and Hematology / Women's Health