



Uppsala 18 September 2019

PRESS RELEASE

## **Thymidine Kinase 1 can be used for early detection of therapy response in breast cancer treatment**

**Patients treated with Epirubicin and Docetaxel before surgery were followed by their thymidine kinase (TK1) levels in blood to directly observe treatment response. The results show that a TK1-based cell-loss metric after two cycles of therapy predicted the status at the operation after six cycles of chemotherapy. The metric predicted early on whether or not the chemotherapy works.**

The purpose with this PROMIX study is to investigate whether a cell-loss metric, defined as the ratio between serum concentration of thymidine kinase1 (sTK1) and the tumor volume, can be used in the early prediction of pathologic response.

The study was performed by collection serum from 104 patients with newly detected localized breast cancer during a neoadjuvant Phase II trial. Blood was collected before each cycle of chemotherapy and 48 hours after each cycle, which eliminate the biological variations seen in the proteome between different patients. The concentration of TK1 in blood was measured with TK 210 ELISA.

The result showed that the cell-loss metrics, combining sTK1 and tumor volume, was significantly associated with the presence or absence of the tumor in the surgical specimen after six cycles of chemotherapy.

“We are excited, this study tells us that TK 1 can be of great value in modern precision medicine. The results also support AroCell’s focus on monitoring breast cancer treatment.” says professor Claes Post, Chairman of the Board of AroCell.

“We are pleased that the team at Karolinska has performed this study with such exciting results. Early detection of therapy response is crucial in selecting correct treatment to each individual patient ” says Michael Brobjer, CEO “The implication of this can well be to prevent patients to undergo chemotherapy treatment that they don’t respond to”.

The study concludes that TK1 has the potential to be of great value for early prediction on response of cytostatic treatment for patients with breast cancer.

[Link to the complete article.](#)

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*AroCell is obliged to make public this information pursuant to the EU Market Abuse Regulation. This information was submitted for publication through the agency of Michael Brobjer, September 18, 2019 at 17:10.*

#### **About Thymidine Kinase 1**

Thymidine Kinase 1 (TK1) is a key enzyme in DNA precursor synthesis. It is upregulated during the late G1 phase and early S phase of the cell cycle and its presence in cells is an indicator of active cell proliferation. Increased levels of TK1 in the blood can indicate active cell proliferation as a consequence of abnormal cell turnover and cell disruption triggered by for example therapeutic agents.

#### **About TK 210 ELISA**

AroCell TK 210 ELISA is a quantitative immunoassay kit for the determination of Thymidine Kinase 1 (TK1) in human blood. The ELISA format is simple and robust, requires no special instrumentation to perform and can easily be incorporated in to standard laboratory processes. By utilizing monoclonal antibodies specific for the TK1 epitope TK 210, AroCell TK 210 ELISA brings improved sensitivity and specificity to the assay of this key biomarker. AroCell TK 210 ELISA provides new opportunities for studying cellular proliferation, disruption, and monitoring of therapy response and relapse in subjects with hematological and solid tumors.

#### **About Promix**

PROMIX – Preoperative treatment of breast cancer with a combination of epirubicin, docetaxel and bevacizumab. A translational trial on molecular markers and functional imaging to predict early response. The study was performed at Department of Oncology-Pathology, Karolinska Institute and University Hospital Solna, Stockholm, Sweden. The trial registration can be found here: Clinical Trials.gov Identifier:NCT000957125 ([Link](#)).

#### **About AroCell**

AroCell AB (AROC) is a Swedish company that develops standardized modern blood tests to support the prognosis and follow up of cancer patients. AroCell's new technology is based on patented methods to measure Thymidine Kinase 1 (TK1) protein concentrations in a blood sample. The TK 210 ELISA test provides valuable information mainly about the condition of cancer patients. This may help clinicians to optimize treatment strategies and estimate the risk of recurrence of tumor disease during the monitoring of the disease. AroCell (AROC) is listed at Nasdaq First North with Redeye AB as Certified Adviser: [Certifiedadviser@redeye.se](mailto:Certifiedadviser@redeye.se), +46 (0)8 121 576 90.

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