

TK1 measurements in serum correlate with the treatment response in breast cancer patients

AroCell AB today announces that a new peer-reviewed article has been published in the journal BMC Cancer, part of Springer Nature. In women undergoing chemotherapy for breast cancer, serum levels of the protein thymidine kinase 1 (TK1), measured early during treatment using AroCell TK 210 ELISA, showed a significant correlation with the response to treatment established at surgery after six cycles of treatment.

Early evaluation of tumor response would facilitate individualized treatment, with inefficient chemotherapy interrupted or changed. In the present PROMIX study, measurements of the serum level of TK1 (sTK1) were performed in patients receiving treatment with Epirubicin and Docetaxel before surgery. The cell loss metric, defined as the ratio between sTK1 and tumor volume, obtained after two treatment cycles, correlated significantly with the status of the tumor at surgery after six cycles. This indicates that the use of the sTK1-based metric gives an early indication of the treatment response in breast cancer.

The study was performed on serum from 104 patients with newly detected, localized breast cancer in a neoadjuvant Phase II trial. Serum samples had been obtained before, and 48 hours after, each cycle of chemotherapy. The concentration of TK1 in the serum was measured using the AroCell TK 210 ELISA.

The results of the study lead to the conclusion that TK1 has the potential of being used as a biomarker for early treatment response in patients with breast cancer.

"This study tells us that TK1 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 with these exciting results. Early detection of therapy response is crucial in selecting the correct treatment for every individual patient" says Michael Brobjer, CEO. "The implication of this finding is that it could aid to avoid patients undergoing chemotherapy treatment to which they may not respond". Michael continues.

"The large differences between patients in the response to cytotoxic treatment, combined with the costs and suffering of such treatment, warrant the development of methods for early evaluation of the response in each individual. The correlation between an early sTK1-based measure of cell loss and the outcome of treatment four months later suggests that the metric is a manifestation of an important biological tumour property, a property that may differ considerably between patients but is comparatively stable in the individual.", says Bernhard Tribukait, author of the article.

[Link to the article.](#)

Contacts

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About Thymidine Kinase 1

Thymidine Kinase 1 (TK1) is a key enzyme in DNA precursor synthesis. It is up-regulated during the S phase of the cell cycle and degraded in mitosis. Its presence in cells indicates active cell proliferation. Increased levels of TK1 in the blood can indicate abnormal cell turnover or disruption of cells in active proliferation 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 into 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 haematological and solid tumours.

About AroCell

AroCell AB (publ) 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 Growth Market with Redeye AB as Certified Adviser: Certifiedadviser@redeye.se, +46 (0)8 121 576 90. For more information: www.arocell.com

Attachments

[TK1 measurements in serum correlate with the treatment response in breast cancer patients](#)