Press Release
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New results with TK 210 ELISA support early therapy response in breast cancer

A new study examines whether the concentration of thymidine kinase 1 (TK1) in the blood early shows whether cytotoxic drugs work or not. The measurements were made with AroCell's TK 210 ELISA. The article is authored by Bernhard Tribukait and is published in the journal Cancers, Volume 13 in 2021. The title reads "Dynamics of Serum Thymidine Kinase 1 at the First Cycle of Neoadjuvant Chemotherapy Predicts Outcome of Disease in Estrogen-Receptor-Positive Breast Cancer".

In breast cancer, chemotherapy can be given before surgery. The new study indicates that a metric of the concentration of TK1 already after the first cycle is valuable. An earlier article describes the values after the second cycle. Blood samples have been taken approximately two days after each round of chemotherapy. The measures of the concentration of TK1 have been set in relation to whether the woman has died of her breast cancer or not. The women who had low values after the first round died to a greater extent than the women who had high values. High values thus indicate early on that the cytotoxic therapy works. When the cytotoxic drugs work, the tumor can shrink in size or disappear before surgery. It can also mean that small islands of cancer cells that spread before surgery are destroyed.

"When thymidine kinase 1 early indicates that a certain set of cytotoxic drugs does not have an optimal effect, there may be a reason to change cancer drugs," says AroCell's CMO professor Gunnar Steineck. "We are preparing for new studies that deepen the developed knowledge regarding breast cancer. At the same time, we are planning studies to see if the early signal is also present in the cytotoxic treatment of other tumor forms".

Thymidine kinase is an enzyme that cells use to build new genetic material (DNA) in cell division. Thymidine kinase 1 occurs in the nucleus of the cell, thymidine kinase 2 in mitochondria. TK 210 ELISA provides a metric of the concentration of thymidine kinase 1 in blood. Other methods are used to measure the enzymatic activity of thymidine kinase. These methods cannot distinguish the activity of thymidine kinases 1 and 2. Not least in a cancer patient, thymidine kinase 1 can be present in the blood without being enzymatically active.

Contacts

Anders Hultman, CEO
Phone: +46(0)18 50 30 20
E-mail: anders.hultman@arocell.com

About AroCell

AroCell AB (publ) is a Swedish company that develops and markets blood and urine sample tests. The corporation specializes in oncology and bacteriology. The company has a broad product portfolio, used in healthcare and established in various markets. In oncology, AroCell uses various biomarkers, TK1 and cytokeratins, to support the treatment of various cancers such as breast, prostate, and bladder cancers. AroCell's product portfolio also includes a rapid bacteriological test for a simple and safe diagnosis of typhoid fever. AroCell (AROC) is listed on 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

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.

Attachments

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