

Press Release, 14.12.2017



Molecular characterization of Circulating Tumor Cells isolated with GILUPI technology from prostate cancer patients

A new promising diagnostic approach

GILUPI GmbH announces the recent publication of a clinical study demonstrating multiplex gene expression profiling of circulating tumor cells (CTCs) isolated *in vivo* from high-risk prostate cancer patients by the use of GILUPI CellCollector®^[1].

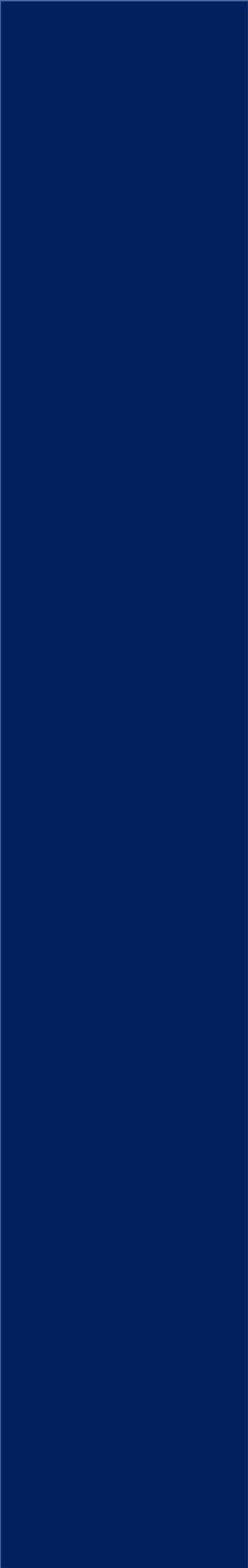
Prostate cancer is a very common cancer and accounts for one of the most related cancer deaths among men. About 15%-30% of patients with prostate cancer are diagnosed with high-risk disease, often treated with local therapy. Nevertheless, the incidence of a relapse or a metastatic disease stresses the need for optimizing the treatment. The researcher Markou and colleagues from the University of Athens in Greece investigated, if combination of *in vivo* CTC isolation with downstream RNA analysis can be a useful tool to optimize individual treatment of high-risk prostate cancer patients. Therefore, EpCAM-positive CTCs were isolated *in vivo* using the GILUPI CellCollector® from 105 high-risk prostate cancer patients. Additionally, a group of 36 healthy volunteers were enrolled as noncancerous controls. For molecular characterization of CTCs the researcher developed a multiplex RT-qPCR assay for 14 genes, including epithelial markers, stem cell markers and epithelial-to-mesenchymal-transition (EMT) markers.

For the first time, a publication of a clinical study presented RNA analysis of *in vivo* isolated CTCs in cancer patients. They observed a high heterogeneity in gene expression in the captured CTCs for each patient. The expression of at least one marker was detected in the vast majority of enrolled prostate cancer patients (70.5%), but not in healthy individuals. Moreover, at least 2 markers were positive in 45 of 105 patients (40.9%), and 3 markers in 16 of 105 patients (15.2%). More importantly, they observed a change of marker expression before and after treatment. In conclusion, combining *in vivo* isolation of CTCs using GILUPI CellCollector® with downstream RT-qPCR assay is a minimal-invasive, highly specific and sensitive approach for molecular diagnostics in cancer patients.

^[1]Markou *et al.* "Multiplex Gene Expression Profiling of In Vivo Isolated Circulating Tumor Cells in High-Risk Prostate Cancer Patients." Clin Chem. 2017 Nov 9.pii:clinchem.2017.275503. doi:10.1373/clinchem.2017.275503.

About GILUPI GmbH

GILUPI GmbH is a medical device company founded in 2006 with focus on the development and production of innovative products for the *in vivo* isolation of rare cells from the blood circulation. Currently, the main focus of GILUPI is the diagnostics market for cancer.



Individual oncological targeted therapies become increasingly important in personalized medicine. The identification of the right drug for the individual patient is today's challenge in clinical practice. To address this medical need, the GILUPI CellCollector[®] is used to enrich rare cells by immunocapture directly in the patient's bloodstream. This methodology has proven to yield highest cell numbers and patient positivity rates in various cancer types. Applying diagnostic analyses ranging from immunostaining, DNA- and RNA-based methods, isolated cells can be characterized and/or analyzed down to a molecular level.

The GILUPI CellCollector[®] is the first *in vivo* CTC isolation product worldwide that is CE approved.

For further information visit www.gilupi.com