



Early lung cancer screening with CTC detection using the GILUPI CellCollector® and Low-Dose Computed Tomography

GILUPI GmbH announces the release of a scientific article about the detection of circulating tumor cells (CTCs) from blood of different groups of pulmonary disease patients by the use of GILUPI CellCollector® [1].

Lung cancer is worldwide the most common cause of cancer-related death in men with a five-year survival rate lower than 20%. Two of three lung cancer patients have an advanced stage disease at initial diagnosis. Cancer mortality might be reduced dramatically, when the disease and its metastatic spread are detected and characterized early on and consequently treated in an optimal fashion. Yutong He and colleagues from the Fourth Hospital of Hebei Medical University in China investigated if combining to methods - Low-Dose Computed Tomography (LDCT) and enumeration of CTCs using the GILUPI CellCollector® - improves early detection of lung cancer. To explore the effectiveness of combined methods, 8313 volunteers were screened by LDCT: 32 ground-glass nodules (GGNs) and 19 healthy volunteers were randomly selected. Additionally, 15 lung cancer patients were enrolled. In the selected cohorts, CTCs were detected with the GILUPI CellCollector®.

In this study, about 73% of the lung cancer patients were detected as CTC positive. Detection rate of CTCs in GGN patients, a cohort that has a 5 to 10% risk to develop lung cancer in future, was lower (16%) when compared to the lung cancer group, but higher than in the healthy control group, where not CTCs were detected. Moreover, all CTCs isolated from GGN patient were analyzed with next-generation sequencing (NGS), finding mutations in three cancer-related genes (KIT, SMARCB1 and TP53 genes). In conclusion, the clinicians showed that combining LDCT with CTC analysis using the GILUPI CellCollector® is a promising way to screen for early-stage lung cancer.

[1] He *et al.* " Using the New CellCollector to Capture Circulating Tumor Cells from Blood in Different Groups of Pulmonary Disease: A Cohort Study." Sci Rep. 2017 Aug 25; 7(1):9542. doi: 10.1038/s41598-017-09284-0.

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 immuno-capture 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