



***In vivo* detection of CTCs in head and neck cancer patients using the GILUPI CellCollector®**

GILUPI GmbH announces the recent publication of a clinical study demonstrates the isolation of circulating tumor cells (CTCs) from blood of squamous cell carcinoma of head and neck (SCCHN) patients with the GILUPI CellCollector® [1].


Isolating and analyzing CTCs from the blood of cancer patients can provide additional information on prognosis, course of disease, treatment efficacy and molecular tumor evolution. CTC detection is challenging due to their extremely low frequency amongst millions of leucocytes and billions of red blood cells. Especially in SCCHN, the sensitivity of CTC isolation with conventional *in vitro* methods is low and insufficient to satisfy clinical requirement. Zhang and further colleagues from the Nanjing Tongren Hospital in China wanted to overcome this limitation by using the *in vivo* GILUPI CellCollector® technology. Therefore, from November 2016 to April 2017 the clinicians enrolled 22 newly diagnosed SCCHN patients as well as 9 healthy volunteers.

Published data are already available for CTC isolation using the GILUPI CellCollector® technology in patients with prostate cancer, neuroendocrine tumors, metastatic breast and lung cancer with high positivity rates (54 - 97%). In addition, this Chinese study revealed for the first time, a high incidence of CTCs in patients with squamous cell carcinoma of head and neck. In total, 72.7% (16/22) were positive for ≥ 1 CTC (range 1-17 cells). The CTC detection rate was higher in patients with late stages than in patients with early stages. More importantly, CTC number changes as a marker for analyzing surgical response was tested. Zhang *et al.* showed that positivity rate decreases from 72.7% with median CTC number of 2 before surgical treatment to 46.7% with median CTC number of 0 after surgical treatment. Moreover, the expression of a therapy relevant oncogene (EGFRVIII) was detected on CTCs and this positive expression was also found in both primary and metastatic tumor tissue. These data revealed that an *in vivo* detection of CTCs had high sensitivity in SCCHN, which might improve CTC application in clinic.

[1] Zhang *et al.* "Enumeration and molecular characterization of circulating tumor cell using an *in vivo* capture system in squamous cell carcinoma of head and neck." Chin J Cancer Res. 2017 Jun;29(3):196-203. doi: 10.21147/j.issn.1000-9604.2017.03.05.

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