maintrac®

maintrac® Therapy Relevant Tumor Cell Characteristics

Adaptation of Therapy

maintrac®

What is maintrac®?

maintrac® is a highly sensitive, minimally invasive laboratory test, that enables the detection of living **circulating tumor cells in the blood (Liquid Biopsy).** The test can be used **before, during and after therapy**[1]. Circulating tumor cells can thus be used as a **biomarker**[2].

Tumor cells can detach from the primary tumor or metastases at very early stages and can enter the bloodstream. These cells are called **circulating epithelial tumor cells** (CETCs/CTCs). They are responsible for the **recurrence of the disease**. Systemic therapy is designed to eliminate circulating tumor cells. During the course of disease, the number and characteristics of circulating tumor cells may change. The **maintrac®** method is **highly sensitive** for the **early detection** of these changes[3].

Approximately 90% of all tumors are of epithelial origin. Using **maintrac® Liquid Biopsy**, circulating tumor cells can be detected in a **blood sample** due to the expression of the surface protein EpCAM[4].

maintrac® Liquid Biopsy can be used for all **solid epithelial tumors**[1,5,6].

maintrac® Therapy Relevant Tumor Cell Characteristics

maintrac® Therapy Relevant Tumor Cell Characteristics provide indications of a possible **response** or **nonresponse** to a chosen therapy.

A series of therapies is only useful if the tumor cells exhibit the respective characteristics. Testing of specific tumor characteristics on circulating tumor cells can provide **additional information** about the **aggressiveness** of the tumor and the **response** to a potential targeted therapy[7].

Both the surface characteristics and the genetic characteristics of the tumor can change during the **course of the disease**. This can influence the efficacy of the therapies applied.

Innovative Laboratory Diagnostics of Circulating Tumor Cells Before, During and After Cancer Therapy

Application:

- When a **tissue biopsy** to obtain information on tumor characteristics is **not possible**
- When a **recurrence/progression** occurs during the course of targeted therapy
- When the **origin of a tumor** is unknown (CUP)

List of biomarkers:

- Hormone receptors (ER, PR, AR)
- Growth factor receptors (Her2/neu amplification, EGFR, EGFR amplification, VEGFR2, c-Kit, IGFR)
- Prostate-associated markers (PSA, PSMA)
- Proliferation markers (Ki67)
- Immunomodulatory molecules (PD-L1, B3-H7)
- Others (apoptosis detection, Mel A / Melan A, PLAP)

maintrac® Quality Features

- **Highly sensitive** detection of living circulating tumor cells without enrichment steps[1]
- **Quantitative** determination of living tumor cells from peripheral blood[3]
- **Fast** and **reproducible**[1]
- Performed in a DIN EN ISO 15189 **certified laboratory**, accredited by DAkkS (ILAC approved)[8]

Additional examinations

- maintrac® **Cell Counting**
- maintrac® **Therapeutic Substance Testing**
- stemtrac® **Tumorspheres**

Requisition

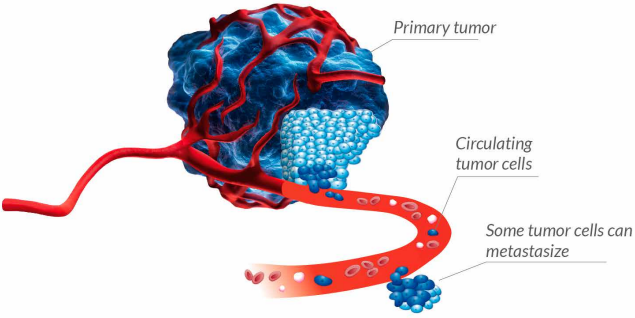
Shipping boxes including the lab request form can be ordered free of charge online at:
www.maintrac.de/en/order/order-maintrac-boxes

Only 15 ml EDTA blood is required for the examination.

Transmission of Results

The results are usually sent **digitally** (DSGVO-compliant) or **by post** within one week.

Your competent partner in oncology.



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Costs

At present, the maintrac® diagnostics are not reimbursed by the statutory health insurances, but are a self-pay service. Whether and to what extent privately insured patients can receive reimbursement from their insurance company must be clarified with their own private health insurance company.

[1] Pachmann, Katharina et al. "Standardized quantification of circulating peripheral tumor cells from lung and breast cancer." Clinical chemistry and laboratory medicine vol. 43,6 (2005): 617-27. doi:10.1515/CCLM.2005.107
[2] Pachmann, Katharina et al. "Assessing the efficacy of targeted therapy using circulating epithelial tumor cells (CETC): the example of SERM therapy monitoring as a unique tool to individualize therapy." Journal of cancer research and clinical oncology vol. 137,5 (2011): 821-8. doi:10.1007/s00432-010-0942-4
[3] Pizon, M et al. "Heterogeneity of circulating epithelial tumour cells from individual patients with respect to expression profiles and clonal growth (sphere formation) in breast cancer." Ecancermedicalscience vol. 7 343. 23 Aug. 2013, doi:10.3332/ecancer.2013.343
[4] Gasent Blesa, J M et al. "Circulating tumor cells in breast cancer: methodology and clinical repercussions." Clinical & translational oncology : official publication of the Federation of Spanish Oncology Societies and of the National Cancer Institute of Mexico vol. 10,7 (2008): 399-406. doi:10.1007/s12094-008-0222-9
[5] Gold, Madeleine et al. "Monitoring of circulating epithelial tumor cells using the Maintrac® method and its potential benefit for the treatment of patients with colorectal cancer." Molecular and clinical oncology vol. 15,4 (2021): 201. doi:10.3892/mco.2021.2363
[6] Pachmann, Katharina et al. "Circulating epithelial tumor cells as a prognostic tool for malignant melanoma." Melanoma research vol. 28,1 (2018): 37-43. doi:10.1097/CMR.0000000000000407
[7] Schott, Dorothea Sonja et al. "Sensitive detection of PD-L1 expression on circulating epithelial tumor cells (CETCs) could be a potential biomarker to select patients for treatment with PD-1/PD-L1 inhibitors in early and metastatic solid tumors." Oncotarget vol. 8,42 72755-72772. 18 Aug. 2017, doi:10.18632/oncotarget.20346
[8] The maintrac method is a method produced in the Dr. Pachmann laboratory (in-house production). It is used exclusively in the Dr. Pachmann laboratory and is therefore not marketed.

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