



maintrac®

zirkulierende
Tumorzelle



maintrac® Cell Counting
Therapy Monitoring

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 changes³.

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 EpCAM⁴.

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

maintrac[®] Cell Counting

maintrac[®] Cell Counting makes it possible to **monitor therapy** and **directly observe the activity of the remaining tumor burden** (minimal residual disease) in patients with primary and metastatic tumors prior to the detection by imaging methods⁷.

Repeated analysis with **maintrac[®] Cell Counting** (every 3-6 months), captures the dynamics of the number of circulating tumor cells.

The changes of **maintrac[®]** cell numbers over time allows **monitoring of the therapy** (effectiveness) as well as **monitoring of tumor activity** during **follow-up, after the end of the therapy** and **in the metastasized situation**.

maintrac[®] Cell Counting provides an additional tool for personalized therapy.

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

Results to date show⁶:

- **Decreasing cell numbers** under systemic therapy indicate a **positive response to therapy**.
- If **cell numbers remain constant** with or without therapy, it can be concluded that the **tumor dynamics** is currently **low**.
- **Repeated increase** of cell numbers indicate an **increased risk of recurrence**.

maintrac[®] Quality Features

- **Highly sensitive** detection of living circulating tumor cells without enrichment steps¹
- **Quantitative** determination of living tumor cells from peripheral blood³
- **Fast** and **reproducible**¹
- Performed in a DIN EN ISO 15189 **certified laboratory**, accredited by DAkkS (ILAC approved)⁸

Additional examinations

- maintrac[®] **Therapeutic Substance Testing**
- maintrac[®] **Therapy Relevant Tumor Cell Characteristics**
- stemtrac[®] **Tumorspheres**

Requisition

Shipping boxes including the lab request form can be ordered free of charge online at:

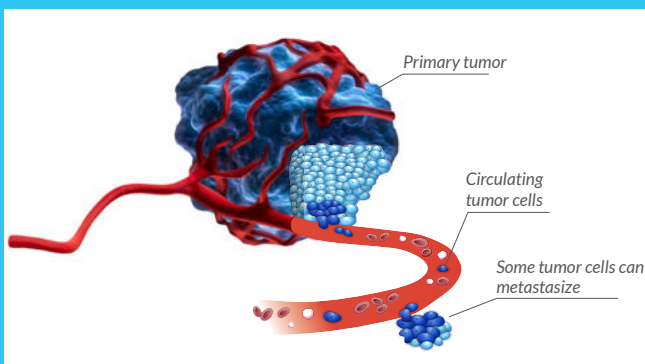
www.maintrac.de/en/order/order-maintrac-boxes

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 S_{ERM} 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." *Ecancermedicallscience* 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 Pachmann, Katharina et al. "Monitoring the Response of Circulating Epithelial Tumor Cells to Adjuvant Chemotherapy in Breast Cancer Allows Detection of Patients at Risk of Early Relapse." *Journal of Clinical Oncology* vol. 26,8 (2008): 1208-1215. doi: 10.1200/JCO.2007.13.6523

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.