maintrac®

stemtrac® Tumorspheres

Assessment of Tumor Aggressiveness

stemtrac®

What is stemtrac®?

Tumors release cells into the surrounding tissue and into the blood. They are called circulating epithelial tumor cells (CETCs/CTCs). Amongst them are the so-called **circulating cancer stem cells**, which can be identified with **stemtrac®**. During a period of up to **21 days**, the cancer stem cells grow into **tumorspheres** in vitro. A tumorsphere is a **spherical structure** that results from the cell division of a cancer stem cell[1].

Clinical Relevance[1]

The more stemtrac® Tumorspheres found, **the more aggressive** the tumor and **the higher the risk of metastasis**.

- Metastasized patients have more tumorspheres than non-metastasized patients.
- The number of tumorspheres can be used as a **biomarker** for the presence of already **existing metastases**.
- No tumorsphere growth was observed in subjects without diagnosed cancer.

Application of stemtrac®

The number of **stemtrac® Tumorspheres** can be used in combination with **maintrac®** to monitor the activity of the remaining tumor burden:

- **After the end of therapy** to estimate the aggressiveness and metastatic risk of the remaining tumor cells.
- **In complete remission** when CETCs are increasing.
- **In disease progression** when CETCs are low or undetectable (loss of EpCAM expression, i.e. dedifferentiation of tumor cells).

Please note that in case of chemotherapy, blood sampling for stemtrac® tumorspheres should be performed 2-3 weeks after administration of the cytostatic drugs.

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

stemtrac® Quality Features

- **Detection** of circulating cancer stem cells without enrichment steps[1,2]
- **Quantitative** determination of circulating cancer stem cells from peripheral blood[1,2]
- **Highly sensitive** and **reproducible**[1,2]
- Performed in a DIN EN ISO 15189 **certified laboratory**, accredited by DAkkS (ILAC approved)[3]

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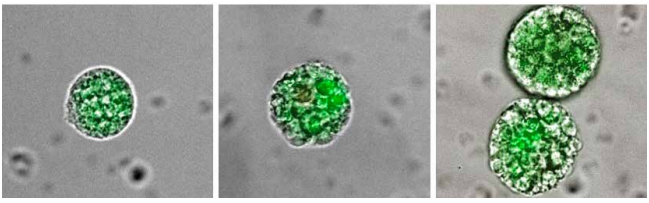


The pictures show the development of tumorspheres of circulating cancer stem cells from peripheral blood.

Additional examinations

- maintrac® **Cell Counting**
- maintrac® **Therapeutic Substance Testing**
- maintrac® **Therapy Relevant Tumor Cell Characteristics**

Requisition

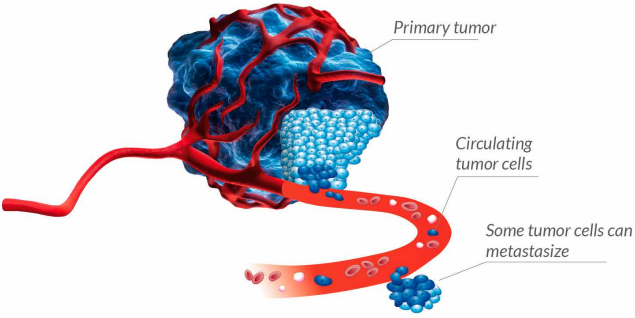
Shipping boxes including the lab request form can be ordered free of charge online at:
www.maintrac.de/en/order/order-maintrac-boxes

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 three weeks.

Your competent partner in oncology.



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Costs

At present, the stemtrac® diagnostic is not reimbursed by the statutory health insurances, but is 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] Pizon, Monika et al. "The number of tumorspheres cultured from peripheral blood is a predictor for presence of metastasis in patients with breast cancer." Oncotarget vol. 7,30 (2016): 48143-48154. doi:10.18632/oncotarget.10174
[2] Pizon Monika et al. "Chick Chorioallantoic Membrane (CAM) Assays as a Model of Patient-Derived Xenografts from Circulating Cancer Stem Cells (cCSCs) in Breast Cancer Patients." Cancers vol. 14,6 (2022): 1476. https://doi.org/10.3390/cancers14061476
[3] The stemtrac 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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