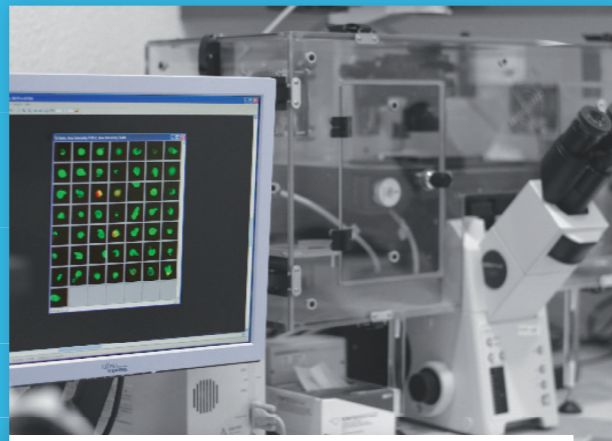




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Since 2005, maintrac is performed by the DIN  
EN ISO 15189 accredited specialized medical  
laboratory Dr. Pachmann.

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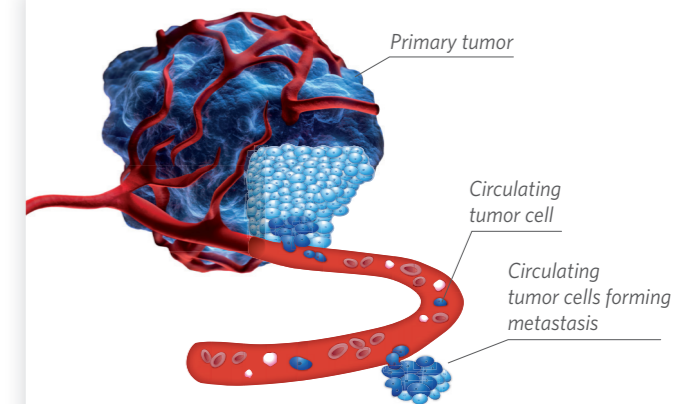
# maintrac

# maintrac

maintrac diagnostics - prior, during and  
after cancer therapy.

Each cancer is different and treatment effectiveness can vary.  
Therefore, it is important to monitor the success of the therapies  
applied.

**Cancer releases tumor cells - circulating tumor cells - into  
the blood.** Even years after surgery or therapy tumor cells can still  
be present in the blood. The tumor cells are able to change during  
the course of disease. These cells can be responsible for recurrence  
of the cancer. Early detection of these changes allows you to  
receive the right therapy at the right time.



**maintrac** is a highly sensitive diagnostic method based on  
circulating tumor cells. It allows a direct glance at tumor activity.

**maintrac** can test different medications directly on circulating  
tumor cells before therapy. This yields information about the  
therapy effectiveness in advance.

**maintrac** permits the identification of therapy-relevant properties  
of the tumor cells. Tailoring of the therapy is possible at any time.

**maintrac** uses circulating tumor cells to monitor the therapy and  
the follow-up in order to early track any changes, already in the  
primary situation.

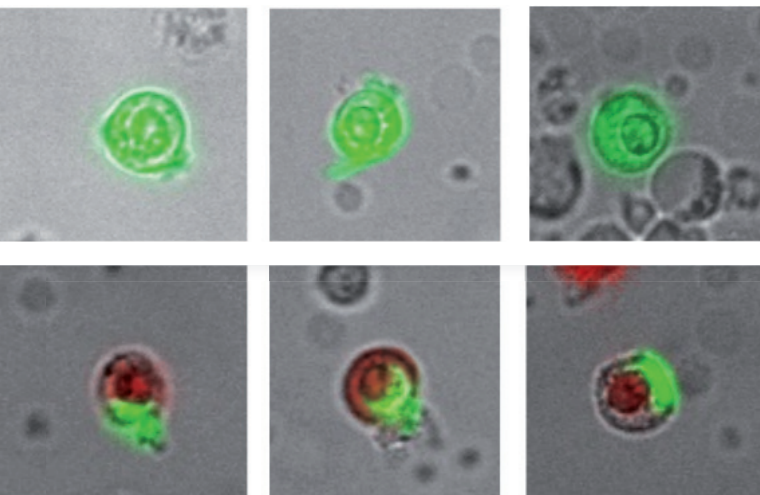
Is the current therapy effective?  
Is there a risk of suffering from relapse?

These are key questions for patients.  
maintrac helps to answer these questions.

We need 15ml of EDTA blood for the analysis.

maintrac has the following advantages,  
already in the primary situation:

- Early recognition of renewed tumor activity
- Control of the therapy
- Tailoring of the therapy
- Longtime monitoring after the end of therapy



Picture above:  
Living tumor cells are stained green in the blood test.  
Dead tumor cells have an additional red staining.



maintrac guides you through  
cancer therapy.

## maintrac – monitoring tumor activity

**Is it possible to determine whether treatment is or was successful?**

maintrac can detect tumor activity based on increasing numbers of tumor cells in the blood, usually sooner than other methods.

maintrac is an additional tool for the physician to regularly monitor tumor activity (every 3 - 6 months).

**In case of increasing cell numbers, the cancer therapy should be modified.**

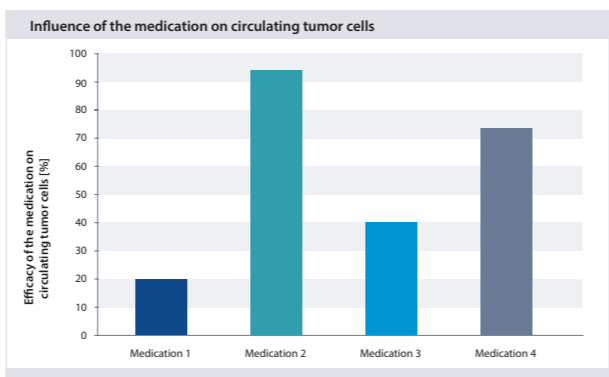
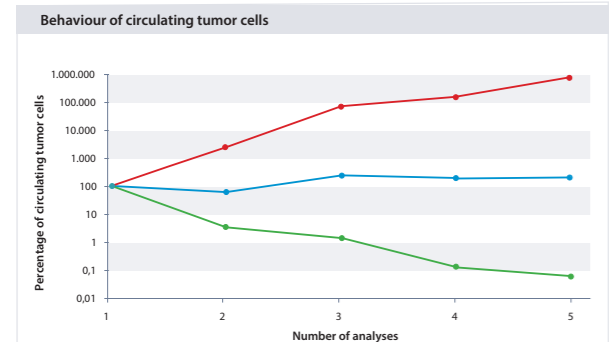
## maintrac – testing of medications

**Which substances will work for the patient?**

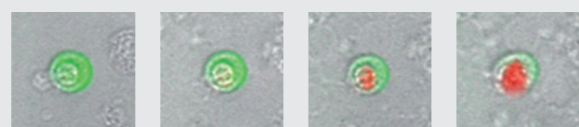
The daily dose of possible substances will be applied to the blood sample. The percentage of dying cells allows to assess the efficacy of each substance.

Either common medications or alternative remedies can be tested.

**Determination of the efficacy is possible even before the treatment starts.**



Medication 2 shows the highest efficacy in this blood sample. The chance for a sustainable and successful therapy is increasing.



Example of a dying cell in the presence of a medication.

## maintrac – therapy-relevant properties of the tumor cells

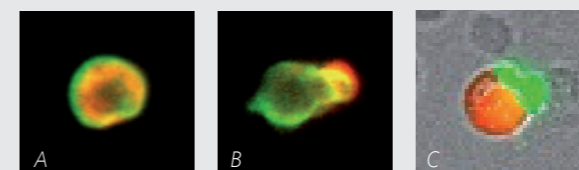
**Are there any characteristics to determine an appropriate therapy?**

A number of therapies should be only applied when the tumor cells comprise corresponding features. Especially in later stages of the treatment therapy-relevant properties of the tumor cells can change.

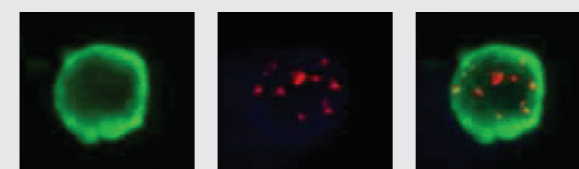
For example, this applies to the presence of important proteins, hormone receptors, immune regulators or HER2/neu amplification which play a role in breast cancer patients.

maintrac always considers the current situation of the patient.

**With maintrac it is possible to characterize the currently present circulating tumor cells to find an appropriate therapy.**



Circulating tumor cells expressing Ki67 (A), PD-L1 (B) or the estrogen receptor (C).

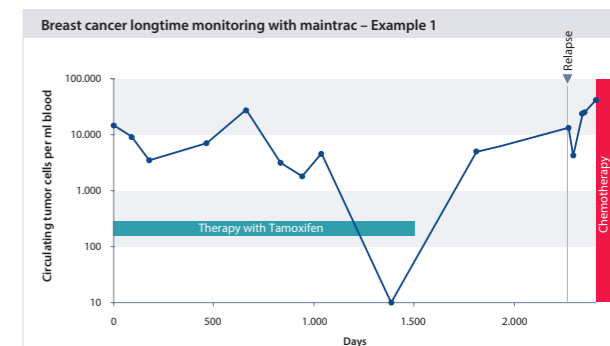


Circulating tumor cell that carries a HER2/neu amplification.

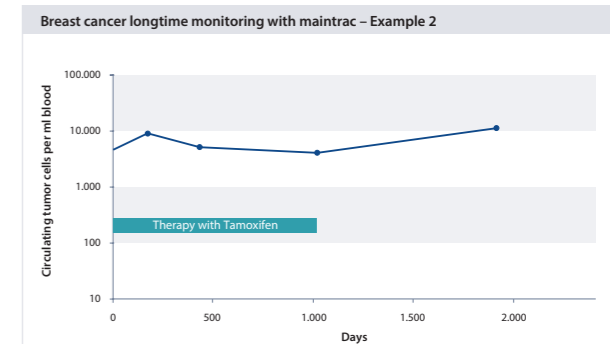
## maintrac – maintenance therapy in breast and prostate cancer

**Is the implementation and continuation of an endocrine therapy useful?**

The continuation of an already 5 years lasting therapy is not always beneficial, i.e. with Tamoxifen. maintrac can assess whether the patient benefits from a prolonged treatment.



After the end of therapy, increasing CETCs are correlated with relapse.



A marginal change is usually a positive sign.

**After finishing the therapy, increasing circulating tumor cells can lead to reinitiation of the therapy.**

During the course of the disease the cell number will be tested repeatedly.

- Increasing cell numbers** = further diagnostics necessary and / or optimization of the therapy
- Constant cell numbers** = positive course of disease
- Decreasing cell numbers** = good prognosis / efficient therapy

**Please talk about details and further procedures with the treating physician.**