Area of Application of the CTR-Tests®

Field of Application

In principle, the CTR-Test® is applicable to all types of solid tumors. Solid tumors originate in different organs. The most frequently tested types of cancer are breast cancer, cervical cancer, colorectal cancer, ovarian cancer, sarcoma, and skin cancer.

The primary treatment goal of a malignant type of cancer is to surgically remove the tumor, provided that this is possible. An adjuvant therapy after the surgery is necessary on many occasions. This is supposed to prevent relapses by killing tumor cells which have already entered the lymphatics or the bloodstream and spread over the whole body. Therapy might consist of chemotherapeutic agents, targeted drugs or radiotherapy as well as a combination of those depending on the disease.

The decision in favor of certain chemotherapeutic agents is based on a variety of aspects. The first things to take into consideration are guidelines, phase-III-study results and admission regulations for a specific chemotherapeutic agent. These depend on the type and location of the tumor, degree of metastasis, number of prior treatments and staging of the patients. Preferences of the individual patient (age, condition and side effects of prior therapies) are also included in the decision.

After taking these factors into account, the CTR-Test® is able to identify unsuitable therapies because it uncovers drugs to which the tumor is probably resistant. The decision in favor of a certain chemotherapeutic agent can therefore be influenced by the CTR-Test®.

The CTR-Test® is mostly used when no clear treatment regimen are given. This is the case if several chemotherapeutic agents are equally suitable for treating a certain type of cancer, for recurrent tumors (in that case there are usually no guidelines) and if the origin of the tumor is unknown. It is also applied when the type of tumor is very unusual and treatment options can be classified according to the result of the CTR-Test®.

Surgical removal of the tumor usually occurs during a stay at the hospital.

Quality of the Specimen

Because the CTR-Test® depends on a sufficient number of alive malignant cells its functioning is limited by the following aspects:

- surgically removed, fresh tumor material*

* Tumor specimen must neither be frozen, nor embedded in paraffin, nor treated with preserving substances (such as formaldehyde). Besides that it must not be stored unprovided for over long periods of time.

- sufficient size of the specimen*

* About 1 g of tumor tissue is needed (smaller amounts are often enough, too). A reference for the size of the sample might be a cube with approximately 1 cm edge length.

Specimen might also originate from metastases of lymph nodes.

Analysis of ascites (accumulation of fluid inside the abdomen) and pleural effusion (accumulation of fluid between the pleura and the lung membrane) is possible as well. These fluids usually contain enough tumor cells, which can be extracted from the fluid for testing.

An amount of 250 ml minimum is needed. Please bear in mind that the risk, the sample does not contain enough living tumor cells, is higher for malignant fluids than for solid tumors.