

### **III. Cytotoxic assessment of drug- candidate molecules**

For candidate antitumour agents, it is questionable whether they exert cytostatic and/or cytotoxic effects. A further question for bioactive antitumour agents is whether they have an apoptotic or necrotic effect, and whether, in the case of an apoptotic effect, programmed cell death occurs in mammary cancer cells via an extrinsic or intrinsic pathway.

#### **Our approach:**

Our group has optimized methods using flow cytometry with single cell resolution, where we are able to determine whether the drug candidate molecule under test has a cytostatic and/or cytotoxic effect following in vitro or ex vivo treatment. We use a specific DNA staining solution and protocol to determine the cell cycle phases after treatment. Further, AnnexinV/propidium iodide will be used to determine the number of early apoptotic, late apoptotic and necrotic cells after treatment. And using the JC-1 redox sensitive reagent, we can detect changes in mitochondrial membrane potential at the single cell level.

#### **Target group:**

Pharmaceutical companies, biotechnology companies, pharmaceutical universities, research groups

#### **Our related publications:**

<https://onlinelibrary.wiley.com/doi/full/10.1002/ddr.22006>

<https://www.mdpi.com/1420-3049/23/11/2845>

<https://www.mdpi.com/1422-0067/18/10/2105>