

## In Vitro Cytotoxicity Studies

### Purpose

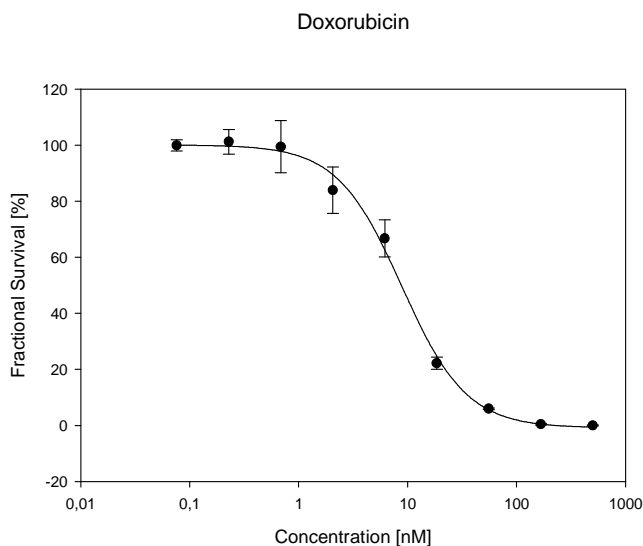
The importance of early toxicity screening in drug development increases, since a large percentage of drug candidates fail in clinical trials due to unexpected toxicity. *In vitro* cytotoxicity studies are an easy and cost effective tool to predict cytotoxicity in a number of tissues. Our scientists use numerous different biochemical endpoints to determine the toxic potential of a drug, including fractional survival, membrane damage, and energy status.

### Our test models

The selection of the right cell-type for cytotoxicity-testing is depending on the customers demand. Cell types that are available for cytotoxicity screening at Pharmacelsus include fresh rat hepatocytes, cryo-preserved human hepatocytes, Caco2 (human colon

carcinoma cell line), several fibroblast lines, and various human cancer cell lines. The toxic effect of the drug is analyzed by different methods such as MTT, XTT, LDH, PI-uptake, resazurin and depends on the biological endpoint of interest.

### Model validation



### Assay protocol

Test compounds are dissolved in an appropriate solvent and serially diluted in the corresponding culture medium. If DMSO is used, final concentration should be <1%. After pre-cultivation of the cells, cells are incubated with compounds for an appropriate time period. Cellular viability is measured by various systems depending on the biological endpoint of interest. Toxicity of a compound can be reported as the EC<sub>50</sub> representing the concentration that causes half-maximal biological effect.

*Please don't hesitate to contact us for a customized quotation*

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