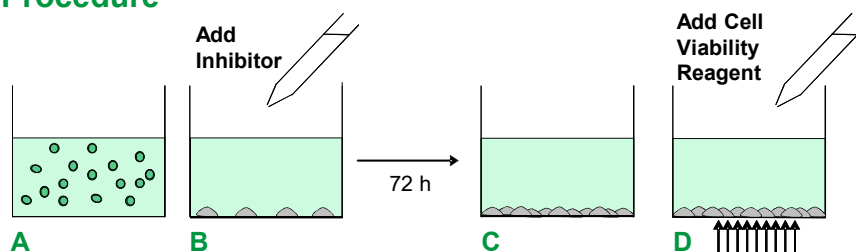


## ➤ The 2D proliferation assay – the most common cellular assay for anti-proliferative drugs

More than 60 % of the lately emerged first-in-class drugs are derived from phenotypic cellular screenings. For analysis of the impact of anti-cancer drugs, the most common cellular phenotypic assay is the 2D proliferation assay in which tumor cells are growing in suspension culture or as monolayers in cell culture plates. This assay allows testing of large numbers of compounds in a rapid cost-efficient fashion. Due to its simplistic set up, the assay is generally regarded as a pretest to more sophisticated assays such as apoptosis or 3D soft agar assays which are also available at ProQinase. The ProQinase proliferation assay is based on the quantification of the population of living cells after compound incubation using CellTiter-Glo® luminescence.

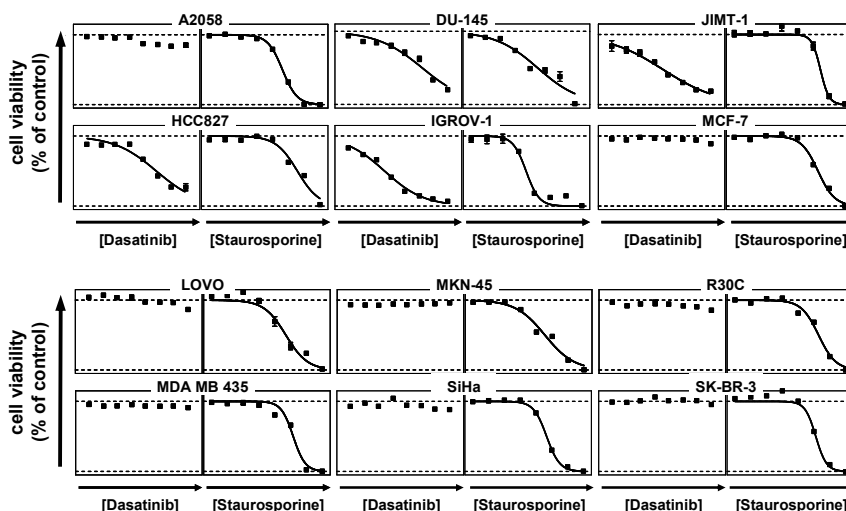
## ➤ Assay Procedure



**Figure 1: Assay procedure.**

Cells are seeded into the inner section of e.g. a 96-well plate at cell specific concentration (A). The next day, when adherent cells have attached (B), compounds are added and cells are incubated for 72 h. Subsequently, the cell viability dye CellTiter-Glo® is added and luminescence is measured as parameter for cell viability (C+D).

## ➤ Study Example



**Figure 2: Study example.**

Kinase inhibitors Dasatinib and Staurosporine were tested for inhibition of the proliferation of the indicated 12 cancer cell lines at indicated concentrations. 72 h after compound addition, cells were stained with a cell viability dye. Signals were quantified and, for analysis of  $IC_{50}$  values, were expressed as percentage of proliferation in the presence of solvent alone (100 % = high control) as compared to cells treated with 1E-5M Staurosporine (0 % = low control).

The cell proliferation assay service is currently established for 131 cell lines (see [List Cell Lines for Cell Proliferation Assays](#)). Further cell lines can be established upon request. The assay is available to determine  $IC_{50}$  values (8 concentrations in duplicates).