Invasion Assay

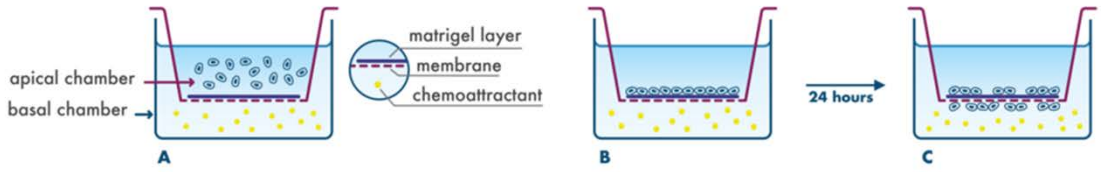
CELL-BASED ASSAY SERVICES

➢ Invasion assays to investigate metastatic behaviour of tumor cells

The invasion assay is one of three tumor cell-based assays offered by Reaction Biology for the investigation of drug potency to reduce metastasis. Our Cell Migration Assays examine the capacity of tumor cells to migrate. The Invasion Assay, on the other hand, examines tumor cell's capacity to i. disintegrate a layer of matrix and ii. migrate.

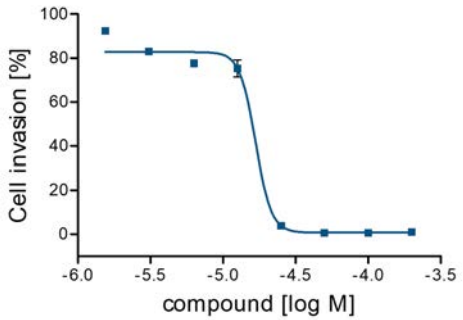
➢ Approach

Cell invasion assays simulate tumor cells to migrate and penetrate into neighboring tissue. The invasion process requires cells to migrate into neighboring tissue via degradation of the extracellular matrix proteins and traversing the basement membrane, which in the cell invasion assay is mimicked by a membrane in a transwell insert. Therefore, the assay is often called transwell invasion assay.
The assay is suitable for combination drug testing as well as high-throughput testing of drug libraries.



Invasion Assay procedure. *Cells are seeded into the apical chamber of the transwell system FluoroBlok. The basal chamber is filled with cell culture media supplemented with fetal calf serum that serves as a chemoattractant. The membrane separating the chambers is coated with extracellular matrix proteins. Within 24-hours incubation in the presence or absence of test compounds, cells invade the basal chamber through the membrane and are quantified via Calcein staining.*

➢ Study example of tumor cell invasion assay



Example of the Invasion Assay with MDA-MB-231 cells. *6.0x10^4 cells were added into each well of the tumor invasion system. Cells were treated with Gefitinib for 24-hours in the presence of a chemoattractant (20% FBS). The invaded cells were then stained with Calcein dye and fluorescence cells were read at wavelengths of 494/517 nm (Ex/Em). Data was acquired with Synergy Gen5 software and percent invasion was calculated using GraphPad Prism.*