CELL-BASED ASSAY SERVICES

➢ Oris Assay as a readout for migration of tumor cells

Cell migration is a hallmark in tumor development. It is relevant for angiogenesis to assure tumor nutrition as well as for the formation of metastases, in which tumor cells leave the primary tumor site and invade other tissues. The process of cell movement is induced by various agents such as growth factors and chemokines and is associated with complex signaling events which involve many components of the cellular motility machinery. Such signaling components (e.g. FAK, cSrc, ROCK) as well as ligand/receptor interactions that induce migration represent attractive targets for tumor therapy. Beside the Oris Assay Reaction Biology also offers the Cell Scratch format for readout of cell migration.

➢ Assay Procedure

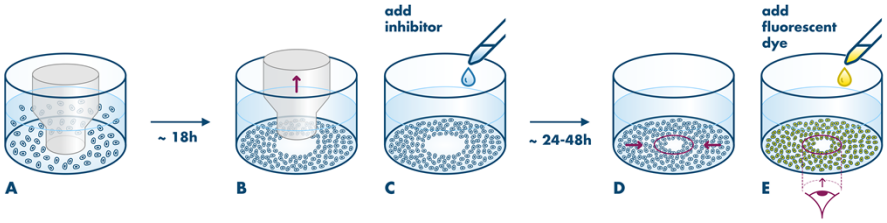

Figure 1: Assay procedure.
Cells of interest are seeded onto Collagen I-coated 96-well plates in complete medium containing 10% FCS (A). Vials are equipped with stoppers (B) to restrict cell seeding to the outer annular regions of the well. Removal of the stoppers ~ 18h after seeding (C) reveals an unseeded region in the center of each well, i.e. the detection zone, into which the seeded cells then may migrate for 24-48 h (D) in the absence or presence of inhibitors. Upon fluorescent labeling, cells that have invaded the detection zone (E) are quantified (F). Optionally, invaded cells can be photographed.

➢ Study Example

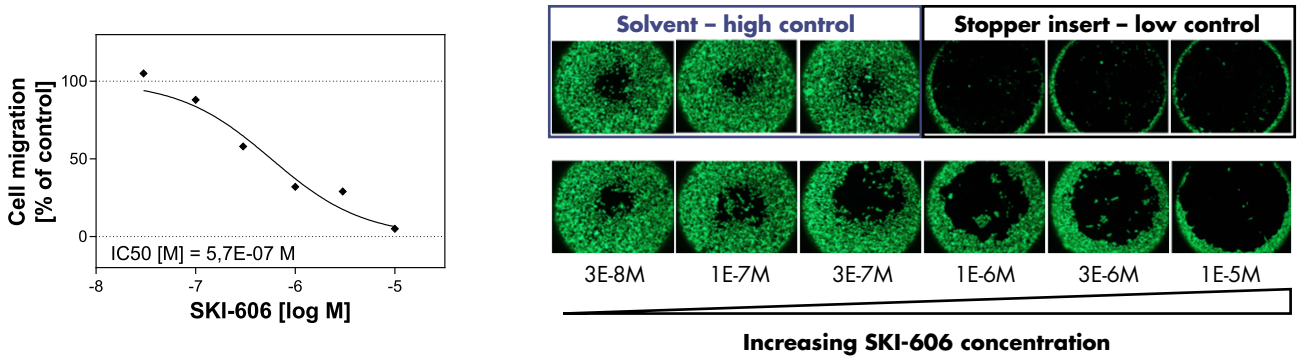

Figure 2: Study example.
The c-Src inhibitor SKI-606 was tested for inhibition of MDA-MB 231 breast cancer cell migration. After 48h of migration, cells were stained, and fluorescence was quantified. Subsequently, stained cells were photographed. For analysis of IC_{50} values, fluorescence values were expressed as percentage of migration in the presence of solvent alone.

The cell migration assay service is currently established for 28 cell lines. Cell lines and conditions can be established upon request. The assay is available to determine IC_{50} values (6 concentrations in duplicates) as well as for single concentration analyses (% inhibition, triplicates).