CELL-BASED ASSAY SERVICES

➢ Cell Scratch 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 Cell Scratch Assay Reaction Biology also offers the Oris Assay format for readout of cell migration.

➢ Assay Procedure

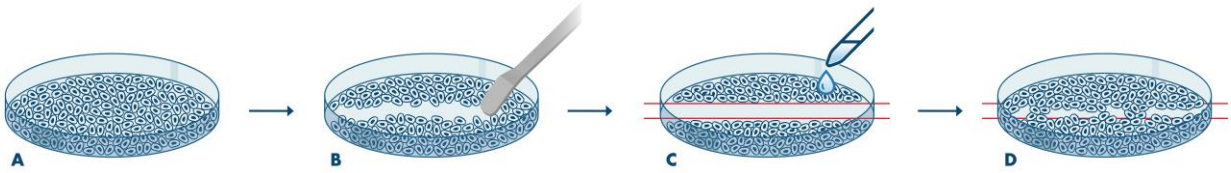

Figure 1: Assay procedure.
(A) Tumor cells grow to monolayers. (B) Using the WoundMakerTM, homogenous scratches will be created mechanically with pins in a 96 well format. (C) After application of test compound, plates incubate in the IncuCyteTM S3 instrument for real-time quantification of tumor cells migrating into the scratch zone (D).

➢ Study Example

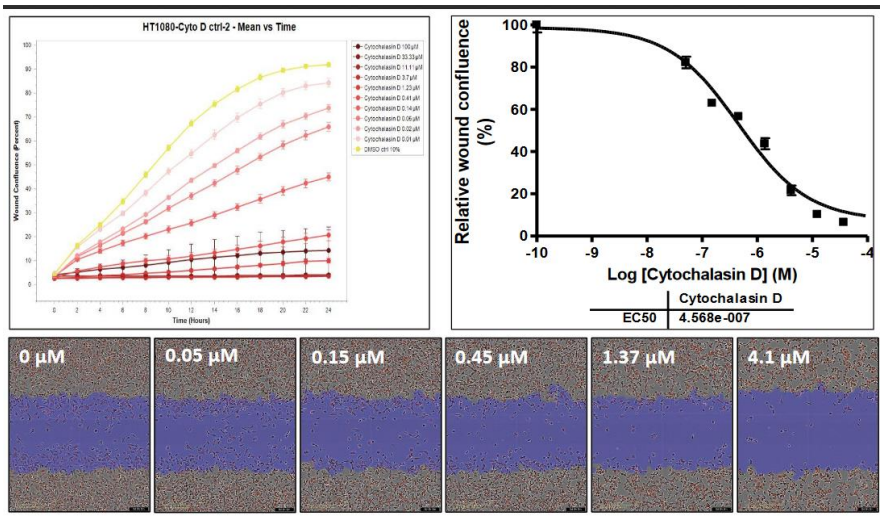

Figure 2: Effect of inhibition of cell migration on HT-1080 cells. *HT-1080 cells with red fluorescence were seeded into ImageLock plates in complete growth media. After the cells reached about 90% confluence, wounds in all wells were simultaneously created using the WoundMaker™ tool. Cytochalastin D were added at serial dilutions and plates were placed in the IncuCyte instrument for scheduled scanning.*

Upper left: Time course of the effect of Cytochalasin D on wound healing over 24-hours.

Upper right: Dose-dependent effect of Cytochalasin D on wound healing at 8h timepoint.

Lower panel: Representative images of wound healing at 8h timepoint. The blue areas represent the initial wound scratches.