

# **New Tools for Functional Cell based Assays using Video Microscopy**

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Functional cell based assays give direct insight in cellular behaviour. Recent developments enhance the ability to investigate processes like migration, chemotaxis, and cell invasion in vitro using video microscopy. For this purpose we use new concepts for experimental chambers based on microstructures for observing two-dimensional cell migration of slow migrating mammalian cells like cancer and endothelial cells. In order to simulate the physiological situation of migrating cells in tissue we further developed this assay for measuring the three dimensional migration of non adherent cells in gels. One of our recent goals is extend this experimental technique to observe usually adherent cells migrating in three dimensional gels.