Staff profile, Kati Räsänen

Title: Modeling the tumor microenvironment of squamous cell carcinomas

Tumor expansion and invasion of squamous cell carcinomas (SCC) is often associated with stimulation of stroma formation. This leads to activation of fibroblasts and epithelial-mesenchymal transition (EMT) of cancer cells. Our hypothesis is that this mesenchymal subpopulation of cancer cells plays a critical role in a tumor – fibroblasts crosstalk that enhances invasion and resistance to therapy. There is an ongoing need to advance in vitro tumor microenvironment models of carcinoma invasion and drug resistance. We have developed three-dimensional culture models (spheroids and organotypic) in which we can mimic and modulate these tumor – stroma interactions. The 3D models will serve as a platform for identifying targetable mechanisms underlying the central features of malignant behavior, such as EMT, and drug-resistance.

PUBLICATIONS


Räsänen K, Vaheri A. Proliferation and motility of HaCaT keratinocyte derivatives is enhanced by fibroblast nemosis. Exp Cell Res 2010 316:1739-47


Räsänen K, Salmenperä P, Bauman M, Virtanen I, Vaheri A. Nemosis of fibroblasts is inhibited by benign HaCaT keratinocytes but promoted by malignant HaCaT cells. Mol Oncol 2008 2:340-8