

## **INVESTIGATION OF STROMA-TUMOR INTERACTION IN HEAD AND NECK CANCER**

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The importance of stromal cells and the factors that they express during cancer initiation and progression has been highlighted by recent literature. To investigate possible mechanism by which the tumor microenvironment might contribute to genetic instability, we asked whether the soluble factors found in head and neck carcinoma and cell line conditioned medium could influence the growth cell and the gene and protein expression. We measured the growth of the Hep-2 cell line cultured in conditioned medium from oral carcinoma-associated fibroblast cultures and vice versa. Using subtractive hybridization and proteomics, we also characterized the gene and the protein expression, respectively. We found that conditioned medium from fibroblast increased Hep-2 cell line proliferation and vice versa. A number of tumor-associated proteins and genes were found to be differentially expressed between Hep-2 cell line and oral carcinoma-associated fibroblasts. These genes and proteins are involved in cell cycle, signaling pathways, apoptosis and cell differentiation. The stroma-tumor microenvironment may be one of the main factors contributing to phenotype proliferation and differentiation in oral cancer.