

## *Alternative splicing and cell mechano-adaptation – when the cells know what is best for them*



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The gradual stiffening over time of the tumor stroma has been associated with the metastatic progression during cancer. Cellular processes associated with metastatic potential, such as contractility and migration, are impacted by the evolution of the tumoral stroma. However, how tumor cells can adapt to these changes to drive metastasis remains largely unknown. I will present ongoing work from my lab aimed at uncovering what modulates tumor cells' responses to an altered tumor stroma. To investigate the differential regulation of mechanosensing in relation to the invasive potential of cancer cells, we combine tissue engineering approaches, animal models, bioinformatics and quantitative analysis. Using these approaches, we are uncovering how regulation of alternative splicing events acts as molecular sensors that fine-tune the ability of cells to respond to substrate stiffness. Overall, our research defines critical mechanisms that could help identify cancers at risk of quickly evolving toward an aggressive disease.



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