

TNBC in-vitro Model Optimization RISE Student Natalia Ramos Acevedo, Mentor Maribella Domenech

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Innovation

Hypothesis

Past research in our lab has provided a custom tissue culture platform that allows the study of paracrine Hh signaling through tumor-stromal interactions between two cell cultures



If a tri-culture tissue platform is created, then it will serve as a more accurate in-vitro model for determining tumor-stroma interactions

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MDA-MB-468



Fibroblast

seeding area

Methodology

in the patient's body

Significance

Microdevices were designed and optimized for bi-culture and tri-culture platform modalities using polystyrene and razor printing techniques

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Results/Conclusions/Future work

Currently there are very few TNBC in-vitro

models that accurately represent what occurs

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Characterization of the fibroblast donors was done using immunostaining techniques. More characterization will be done using qRT-PCR method. Future work consists of determining culture parameters and optimizing experimental design for the implementation of proliferation and invasion measurement techniques using the new bi-culture and tri-culture tissue platforms for the tumor cell and human fibroblasts ratio testing.