



Analysis of Angiogenesis in Tissue Engineered Skeletal Muscle with Varying Myogenic Proportions

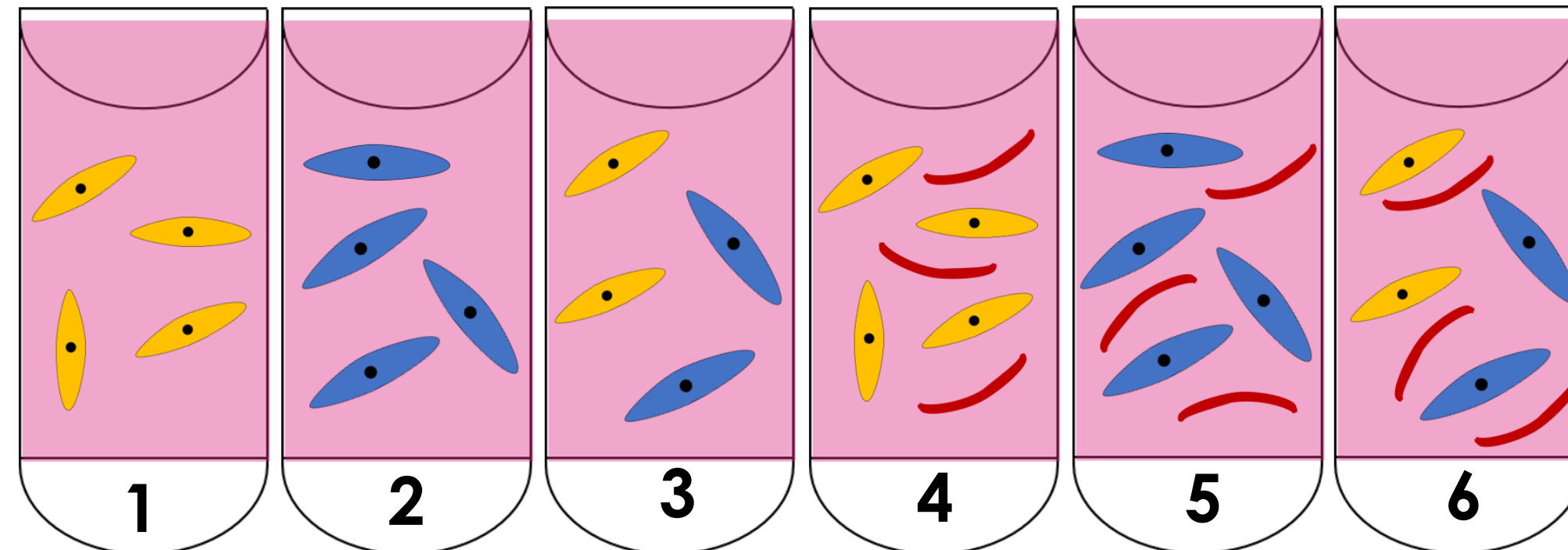
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Intellectual Achievement

SUMMARY

After receiving the UTSA College of Engineering Undergraduate Research Program Scholarship for summer 2019 I was able to perform a research project of my own within Dr. Christopher Rathbone's lab. In this study we prepared six groups of TE-SkM using fibrin gel with various combinations of SCs, MVFs, and Fibs to determine the combined effect of varying ECM densities and co-culturing environments on angiogenesis. The creation of optimized tissue engineered skeletal muscle (TE-SkM) would be useful for applications in personalized medicine and eventual implantation of functional muscle tissue into patients. Through the completion of this study over the summer I completed my goal of organizing and carrying out my own research, practice for what I hope to do throughout my career.

Myogenic Proportions



SPICES

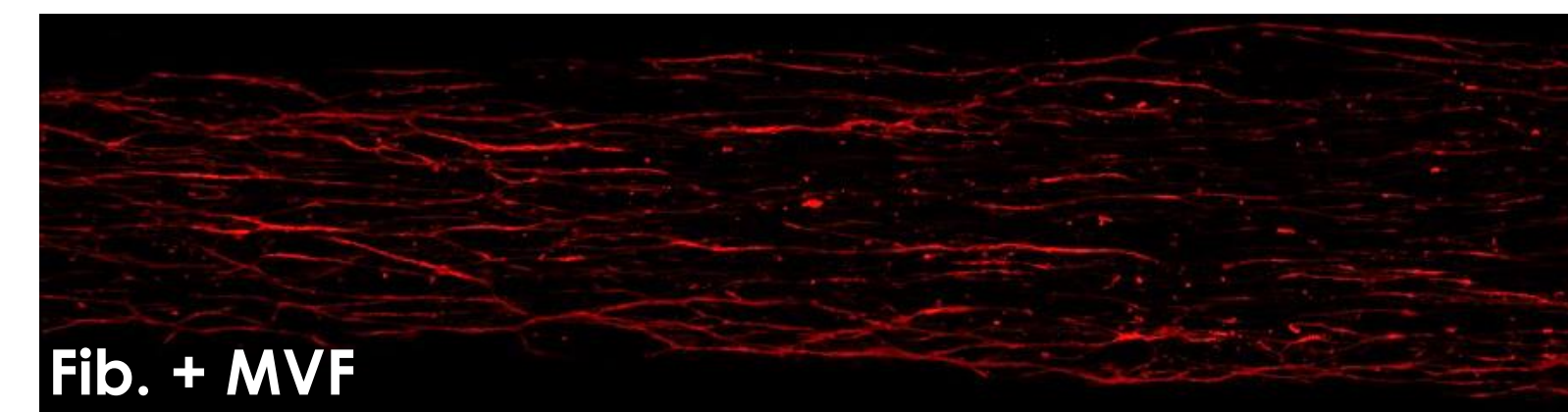
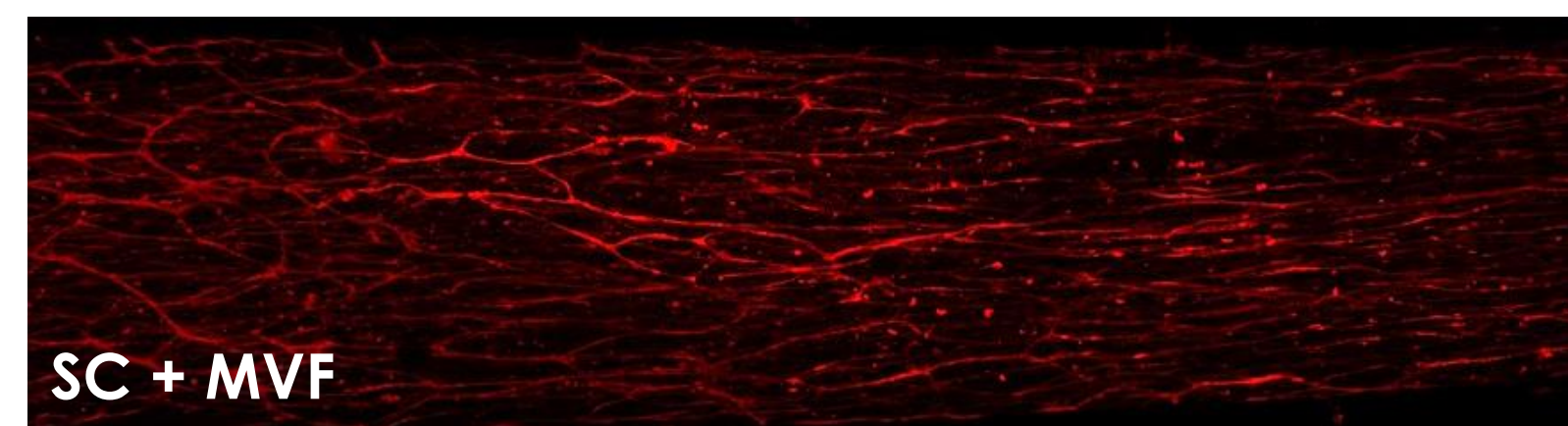
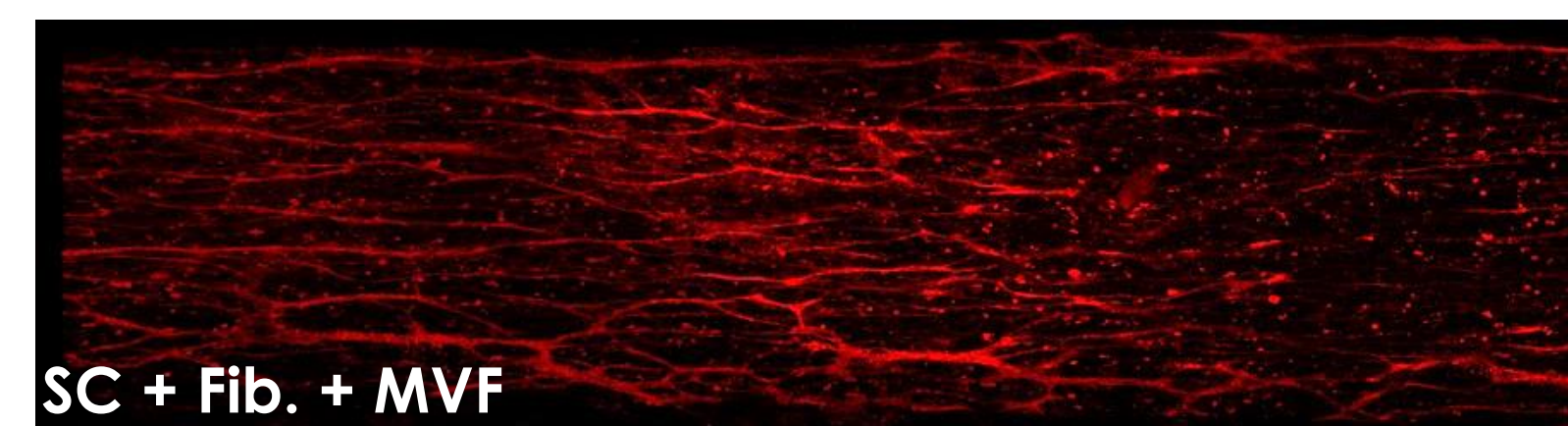
This experience embodies the SPICES category intellectual achievement. Through this experience I was able to perform my own research project which serves as practice for what I hope to make my career.

HERBS

This experience demonstrated resilience because my fellow researchers and I persevered through weeks of cell culture and data analysis. Support because my co-researchers and I supported each other throughout the study, splitting up work when necessary, and encouraging each other.

LEARNING OUTCOMES

My research project embodied project management as my co-researchers and I planned and carried out every aspect of our study from scheduling to data analysis. I also practiced Team/Independent Learning & Decision Making as my teammates and I compromised on decisions which would impact our shared project.



IMPACT

Performing my own research study this summer helped me feel more prepared for my future career. Additionally, this research, and future connected research, may one day be used for applications in personalized medicine and eventual implantation of functional muscle tissue into patients.

ADVICE

I would advise other students to apply for any opportunities that interest you. Don't fear rejection.