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Comparison of myoblast and satellite cell behavior on scaffolds: Analysis of proliferation and differentiation

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Satellite cells represent a population of stem cells with therapeutic potential. Past experiments using these cells found that they could not be delivered systemically; they demonstrated low levels of proliferation and differentiation *in vivo*. In culture, satellite cells lost their differentiation potential. Recently, there is renewed interest in the use of satellite cells as a therapeutic for traumatic muscle loss and dystrophic muscle. We want to develop a culture system that allows for the proliferation of primary satellite cells without the loss of potential. We have been systematically testing various extracellular matrix based scaffolds with added signaling factors to first induce satellite cells to proliferate and then to differentiate. Our work to date demonstrates that there is considerable data that demonstrates that C2C12 myoblasts can proliferate and differentiate on scaffolds, however these cells are immortalized and do not behave identically to satellite cells.

Biography

Jeanne Wilson-Rawls completed her PhD at the St. Louis University School of Medicine and was a Post-doctoral fellow at University of Texas Southwestern Medical Center at Dallas. She is currently an Associate Professor in the School of Life Sciences at Arizona State University, studying the development and regeneration of muscle in mammals and reptiles.

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