



Emily Wrona Ozpinar



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Studying Immune Response to Extracellular Matrices Merged with Pluripotent Stem Cells

Research emphasis:

Ms. Ozpinar's main interests lie in the design and transplantation of tissue-engineered constructs derived from extracellular matrices (ECM) and repair cells derived from embryonic, mesenchymal and induced pluripotent stem cells. She is also interested in the innate immune system response to these constructs.

Applications:

- Extracellular Matrices (ECM)
- Decellularization
- Innate immune system responses to biomaterials
- Induced Pluripotent Stem Cells

Research Strengths:

- Gene expression analysis using qRT-PCR and Nanostring Technologies
- Macrophage isolation and polarization
- Pluripotent stem cell differentiation into cardiomyocytes
- Derivation and characterization of ECM-derived scaffolds

Publications and Abstracts:

Wrona EA, Sun B, Romero-Torres S, and Freytes DO. Effect of Polarized Macrophages on the In Vitro Gene Expression After Co-Culture of Human Pluripotent Stem Cell-Derived Cardiomyocytes. *Journal of Immunology and Regenerative Medicine*. In Press (June 2019).

Gaffney L, **Wrona EA**, and Freytes DO. Potential Synergistic Effects of Stem Cells and Extracellular Matrix Scaffolds. *ACS Biomaterials Science & Engineering*. In Press (July 2017).

Spiller KL*, **Wrona EA***, Romero-Torres S, Pallotta I, Graney PL, Witherel CE, Urbanska A, Santambrogio L, Panicker LM, Feldman RA, Vunjak-Novakovic G, and Freytes DO*. Differential Gene Expression in Human, Murine, and Cell Line-derived Macrophages. *Experimental Cell Research*. In Press (October 2015).

Wrona EA⁺, Peng R, Born H, Amin MR, Branski RD, and Freytes DO. Derivation and Characterization of Porcine Vocal Fold Extracellular Matrix Scaffold. *Laryngoscope*. In Press (September 2015).