

Lu, Pengfei et al. "Extracellular Matrix Degradation and Remodeling in Development and Disease." *Cold Spring Harbor perspectives in biology* 3.12 (2011): 10.1101/cshperspect.a005058 a005058. *PMC*. Web. 27 Jan. 2018.

This published .gov scholarly article written by authors from credible departments (Paterson Institute for Cancer Research, Department of Anatomy and Program in Developmental Biology, and Department of Surgery and center for Bioengineering and Tissue Regeneration) discusses four main topics: Abnormal vs. Normal properties of ECM tissue, Degradation and Remodeling, Physical Properties, and Environmental Changes. Abnormal ECM can lead to deregulated cell increase, while normal ECM regulates stem cell niches, bone repair, and wound repair. This can be connected to the physical properties of ECM. Clinicians have recognized that diseased tissues have different elasticity (tensile strength) than healthy ones. Furthermore, because the the ECM material can be divided into proteins and glycoproteins, when it stiffens, its biomechanics properties change and cells respond by exerting different kinds of force.

In addition, there are many significant quotes from this article that can help justify my experiment and its results. For example, "The biomechanical properties of the ECM belong to a subcategory of its physical properties that determine how the ECM reacts to various forms of force, including tensile, compressive, shear, and other types of force loads applied by cells residing in the matrix." This quote directly links the the proper functioning of the ECM material to its tensile strength properties. This information can be used to further qualify the fact that environmental effects do in fact affect the ECM material. Additionally, the article states that the protein composition is what becomes altered by the environment.