



UNIVERSITY OF ARKANSAS

College of Engineering
Department of Biomedical Engineering

July 13, 2018

Dear Editor,

Our group explores strategies toward the repair of tissues through the engineering of novel implantable biomaterials. To this end, we have developed a class of extracellular matrix (ECM) implants isolated by the solvent degradation of cultured polymeric foams and hollow fiber membranes.

In this manuscript we describe specific protocols for the fabrication, cell culture, and degradation of our sacrificial scaffolds as well as processing of the ECM constructs for implantation. The hollow fiber membranes described in this manuscript allow diffusion of cell culture nutrients but trap the high molecular weight ECM secreted by cells, after which the cell culture scaffold can be dissolved using a solvent to yield ECM constructs which can be decellularized for implantation. We believe that these protocols will be of significant interest to the JoVE Bioengineering audience. Dr. Nandita Singh has assisted us through the submission of this invited manuscript.

Sincerely,

Jeffrey C Wolchok, Ph.D.
Associate Professor
Department of Biomedical Engineering
University of Arkansas
jwolchok@uark.edu