

# Preservation of Fundamental Molecular and Stromal Components via Retention Processing\*

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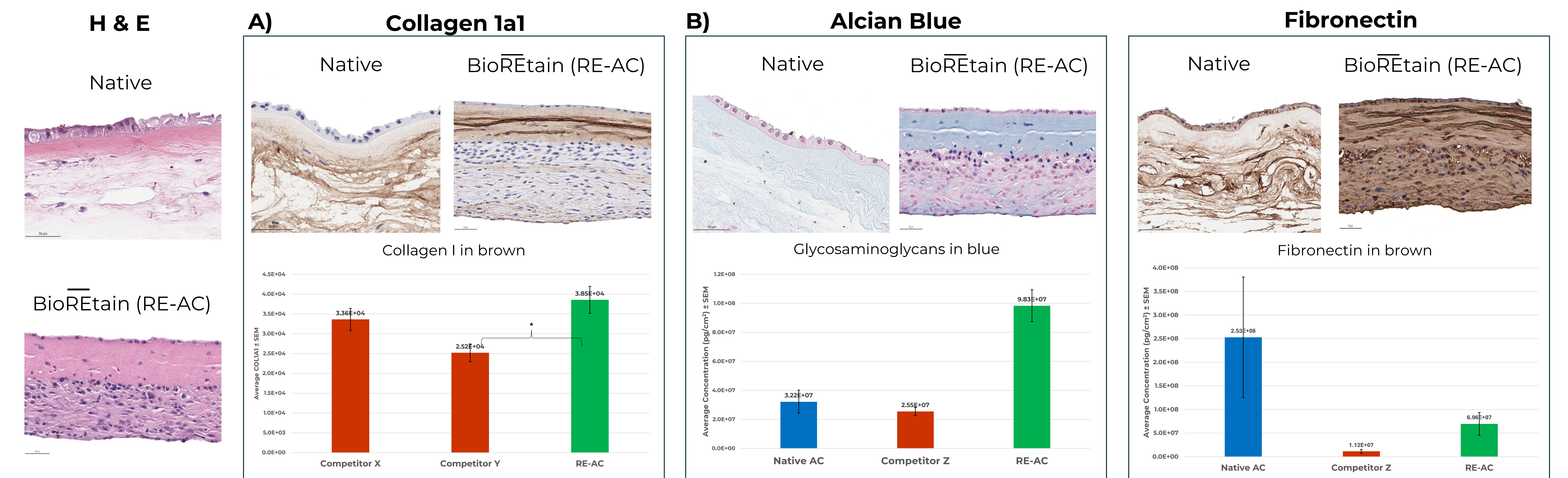
## Abstract

Growth factors, cytokines, and chemokines are key elements associated with wound treatment modalities. Placental membrane grafts are used as wound coverings providing an optimal wound environment. Previous techniques for producing these grafts show a loss in these beneficial properties by primarily focusing on removal of non-solid matrix components. In an effort to retain as much of the natural matrix as possible and to preserve the beneficial factors, a retention-based method was developed (BioREtain®), utilizing gentle processing. We tested the impact of this processing regime on stromal and molecular content. Data obtained from this study show the retention of structure as well as the preservation of numerous factors in RE-AC placental tissue grafts. It also shows the retention of components compared to the native tissue.

## The BioREtain® Process

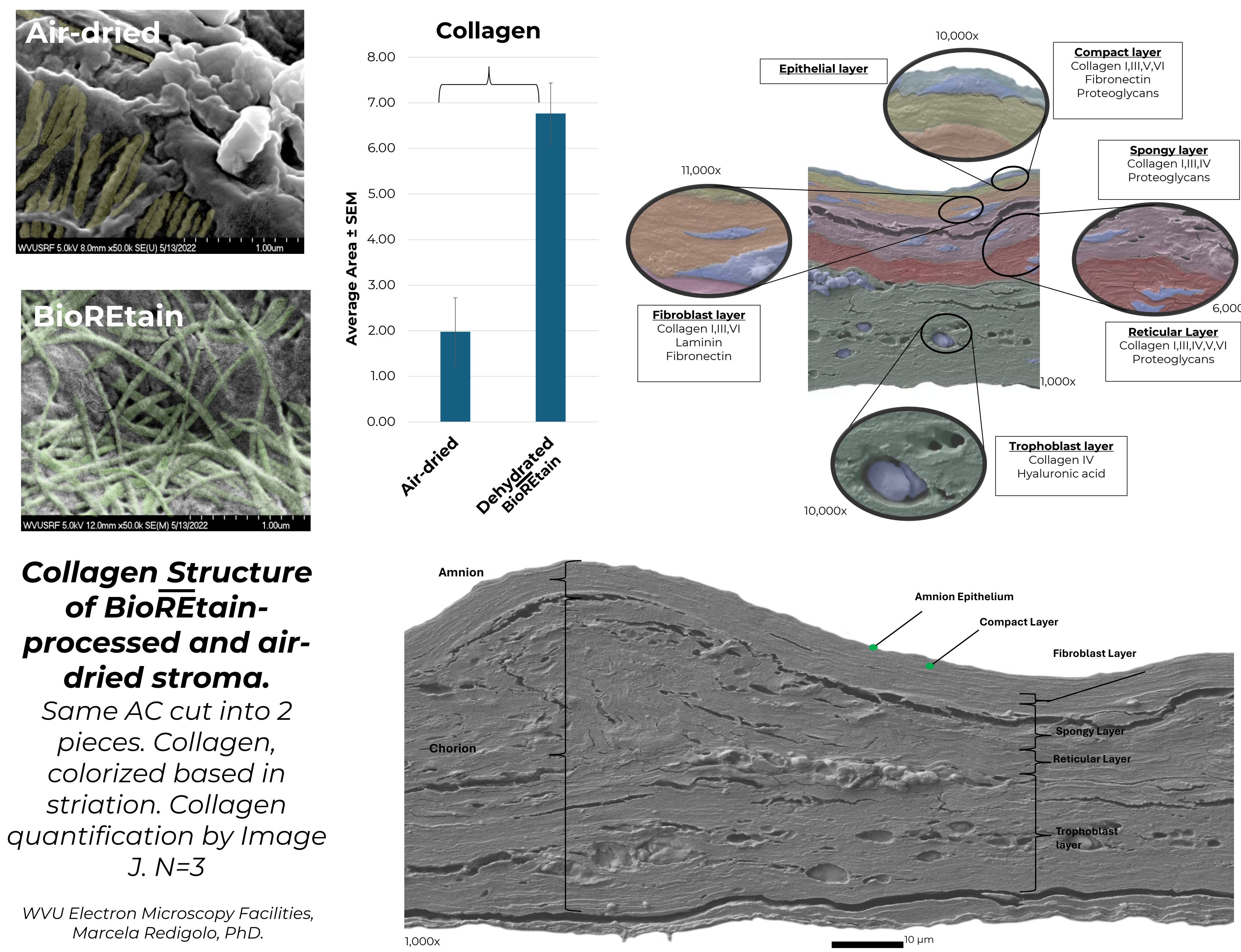
1. Minimally damaging, yet effective disinfection.
2. Hand removal of blood/debris.
3. Cold isotonic cleansing.
4. Gentle dehydration.
5. Low-dose Electron beam sterilization.

## Structural Components

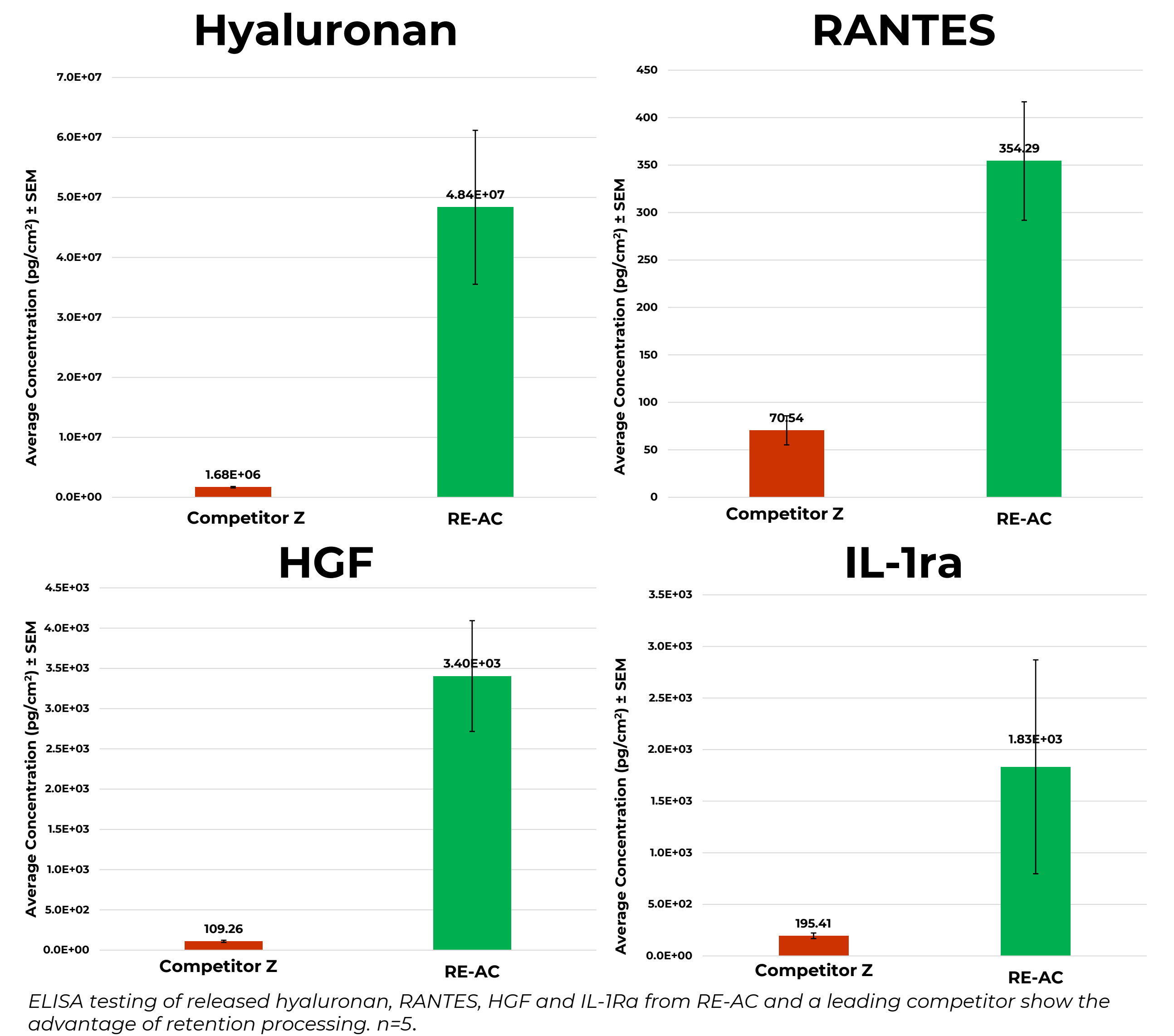


All images at 40x magnification. RE-AC was tested against leading competitors of dehydrated amnion/chorion. **A)** Collagen 1 quantification achieved by ImageJ analysis. RE-AC and Competitor Y, n=15; Competitor X, n=12. **B)** Native tissue, RE-AC, and a leading competitor was tested by ELISA for released sGAGs and Fibronectin, n=5. Results can be more robust in final product due to the natural dilution in native tissue. Once dehydrated, water has been removed, leaving only structural components. Hence, final product shows more concentrated factors within the graft area. \*significance at p<0.01. Data on file. Histology performed by HistoWiz, Inc.

## Stromal Components and SEM



## Molecular Factors



Our membranes are intended for homologous use as a barrier membrane or protection over acute and/or chronic wounds. \*Placental Processing for Retention of Factors. Patent pending