

EXPLORING RABBIT SKIN AS A NOVEL DECELLULARIZED

DERMAL SUBSTITUTE FOR BURN WOUND HEALING

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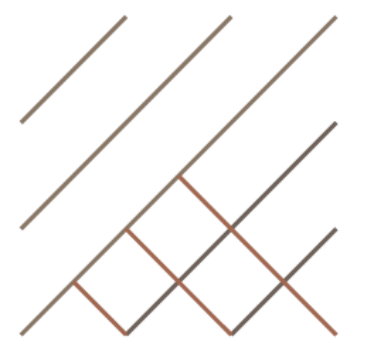
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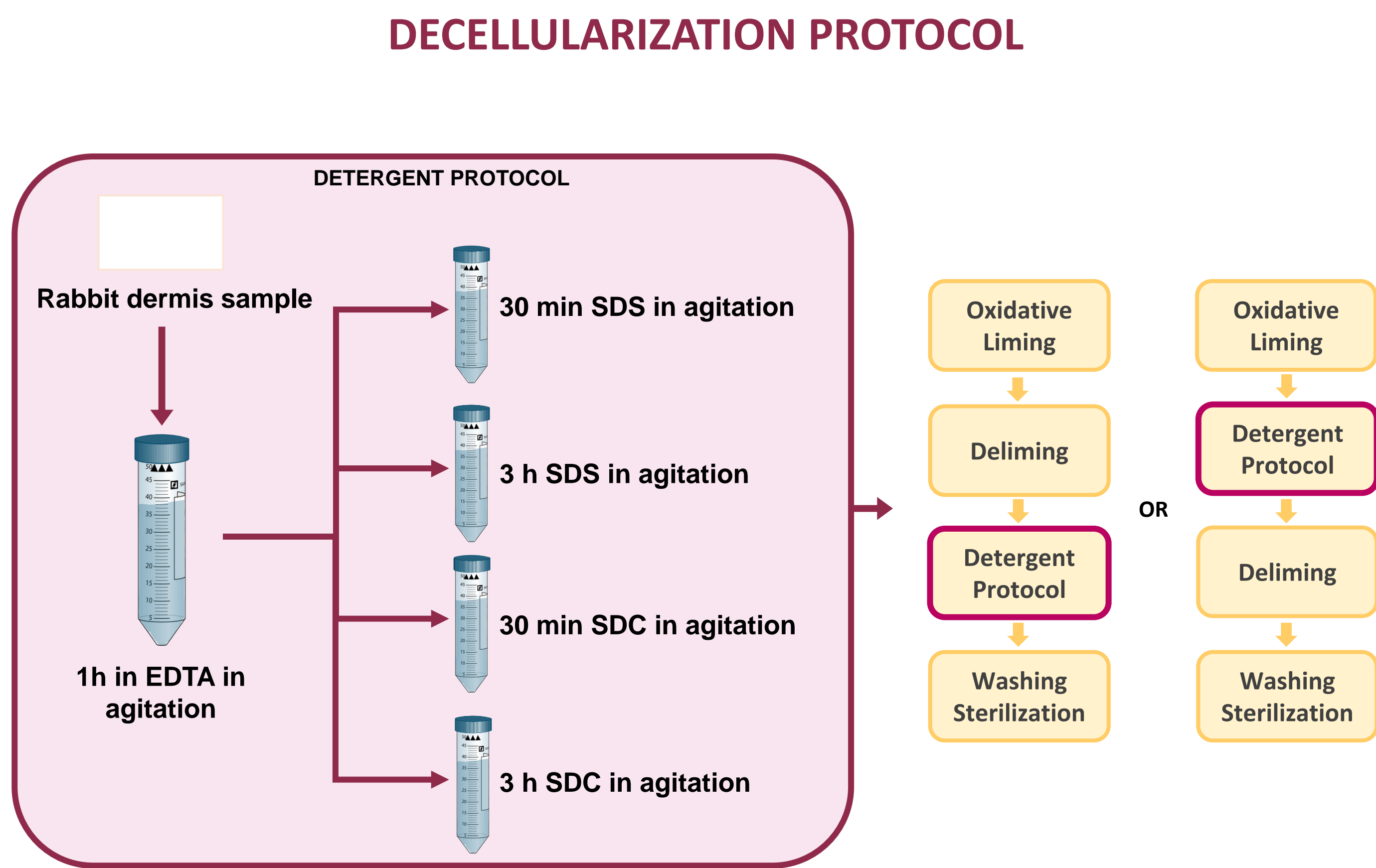
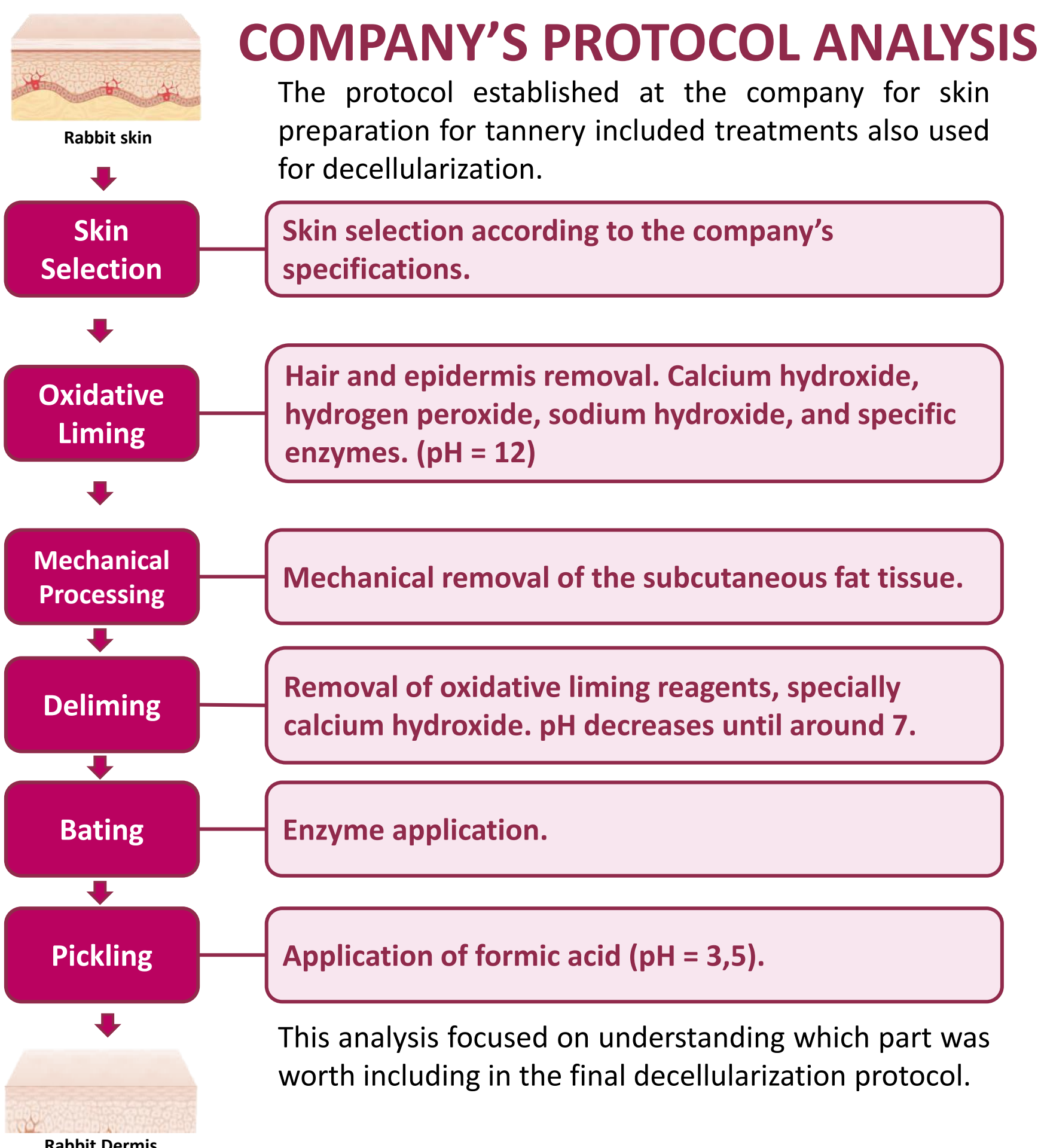


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INTRODUCTION

Burn wounds remain a significant challenge in medical care, requiring effective wound coverage to restore the skin barrier and promote healing or support skin reconstruction. The use of autologous grafts as substitutes is still the standard treatment, however, it presents limitations for deep and extensive burns (1). Decellularized skin allografts and xenografts have emerged as suitable options, using decellularization to remove the immunogenic material present in the tissue while preserving the ECM components and interesting biomolecules (3). Considering that xenografts source availability is significantly higher and free of ethical concerns, this study describes for the first time a protocol for decellularizing rabbit dermis, leveraging a valuable agro-food by-product that exceeds 5000 skins/day at the world-leading company Cortadoria Nacional de Pêlo, and studies its potential for skin regeneration.

MATERIALS AND METHODS



CONCLUSIONS

A minimally invasive protocol was successfully optimized for obtaining dRDMs, yielding matrices with DNA content below 50 ng dsDNA/mg, meeting decellularization standards. The preserved mechanical properties, comparable to controls, indicate structural integrity. The GAGs quantification showed that this ECM component is in a range that can influence cells. Furthermore, *in vitro* studies confirmed the cytocompatibility of dRDMs, highlighting their potential for biomedical applications.

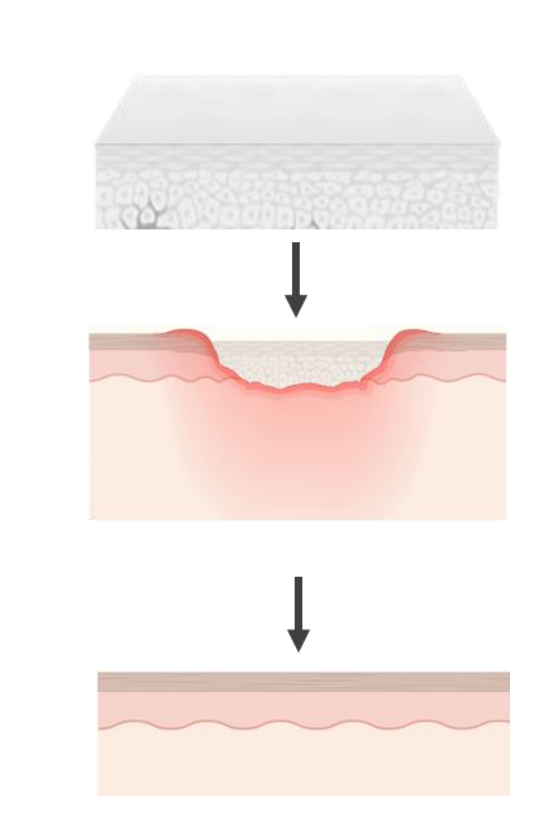
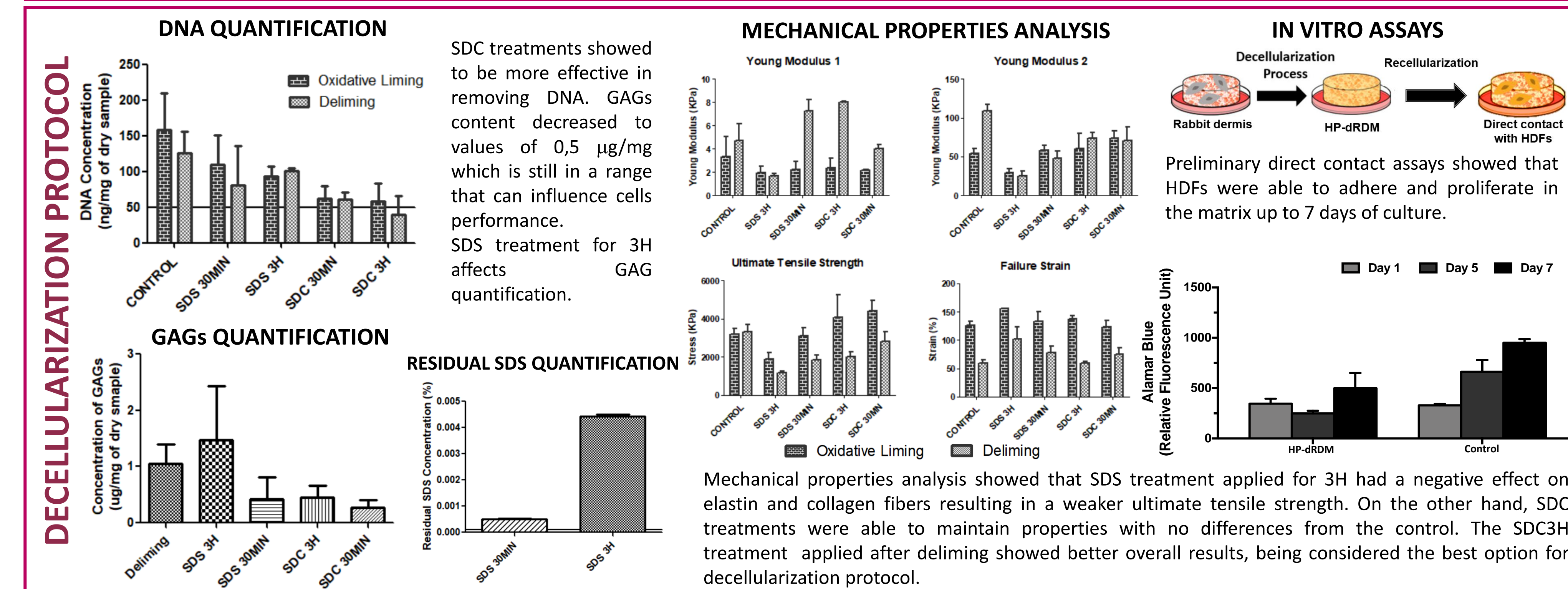
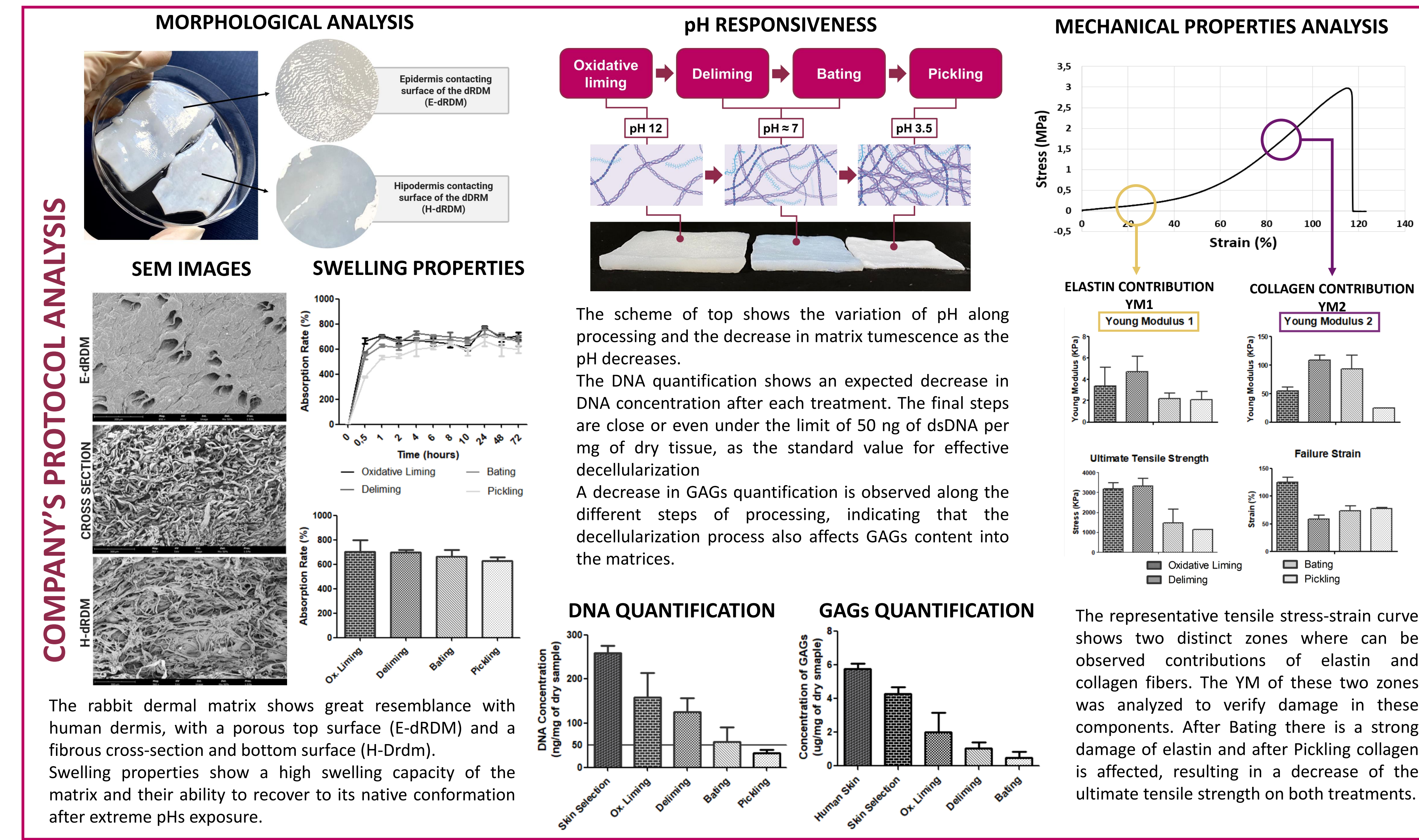
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RESULTS AND DISCUSSION



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