Manufacturing of collagen membrane for bioartificial skin

서영권, 박정극*, 송계용[1], 서성준[2], 김영진[3]
동국대 화학공학과; [1]중앙대 병리학과; [2]중앙대 피부과;
[3](주) 라이프코드
(jkpark@dongguk.edu*)

Human keratinocytes can be growen reliably and reproducibility in vitro to form multilayered epithelium. These sheets of cultured keratinocytes have been used to patients with severe burns and leg ulcers.
There is a delay of 2 to 3 weeks for culture of the sheets of keratinocytes.
So we made an artificial skin comprised of a keratinocyte in skin and a type I collagen membrane.
In this work, we made a collagen membrane for the purpose of scaffold for artificial skin. And we showed primary culture keratinocyte, and cultured on the collagen membrane. The collage membrane could be obtained using 5 mg/ml collagen solution and lyopilization and then dry methods.
To develop the artificial skin 500,000 cells/cm2 of keratinocyte were cultured on the collagen membrane. Consequentely, it is possible that to make the bioartificial skin within 10 days.