UPPSALA UNIVERSITET

Molecular Biotechnology Programme

Uppsala University School of Engineering

UPTEC X 08 050	**Date of issue 2008-12**

Author

Emma Stegberg

Title (English)

Chronic fibroblasts cultured in 3D collagen matrices as an *in vitro* model for isolated healing processes in a chronic wound

Title (Swedish)

Abstract

Wound healing is a complex process which involves numerous cell types, extracellular matrix components and cytokines. Chronic wounds fail to proceed through the normal phases of healing and are instead locked in a state of pathologic inflammation. In order to understand the underlying mechanisms causing the chronicity and to develop new and more effective treatments there is an immense need for improved models for chronic wounds.

In the present project, a three dimensional in vitro model of dermal like tissue in chronic wounds has been developed. The model was utilized for the investigation of the differences in cell behavior between chronic dermal fibroblasts and normal dermal fibroblasts on cellular processes important for dermal repair and regeneration. Furthermore, the effect of a wound treatment substance, enamel matrix derivative (EMD), on these cellular processes has been examined.

Keywords

3D dermal model, wound healing, chronic wounds, enamel matrix derivative (EMD)

Supervisors

Maria Werthén
Mölnlycke Health Care AB

Scientific reviewer

Peter Thomsen
Gothenburg University

Project name	Sponsors
Language **English**	Security
ISSN 1401-2138	Classification
Supplementary bibliographical information	Pages **38**

Biology Education Centre Biomedical Center Husargatan 3 Uppsala
Box 592 S-75124 Uppsala Tel +46 (0)18 4710000 Fax +46 (0)18 555217