

MEDCOLL®

Scientific Study 2012

The Effects of MedColl® Bio-Marine Collagen Supplements on Human Dermal Fibroblasts.

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Scientific Study

MEDCOLL®

SCIENTIFIC STUDIES (In-vitro):

These are experimental studies carried out by scientists in a laboratory. Skin cells and tissues can be isolated and cultured to see how they react to certain ingredients.

BACKGROUND:

The appearance and function of human skin changes profoundly during ageing and with exposure to external factors such as ultraviolet radiation and smoking. Fine wrinkles and reduced elasticity, classic signs of aging skin, are associated with behavioural changes in skin cells and in the protein scaffold that supports them (called the dermal extracellular matrix). A major component of this protein matrix is collagen. Over time these skin collagens degrade and must be replaced. The main cells responsible for manufacturing collagen and other proteins in the skin are called dermal fibroblasts. These highly specialized cells are normally found just under the skin where they can maintain the protein scaffold. As skin ages, its ability to replace and maintain the protein scaffold also decreases. One theory proposed to try and prevent, or even reverse the appearance of skin aging is to boost dermal fibroblast activity. The aim of this study was to examine if the MedColl® bio-marine collagen supplement affected human dermal fibroblasts in vitro.

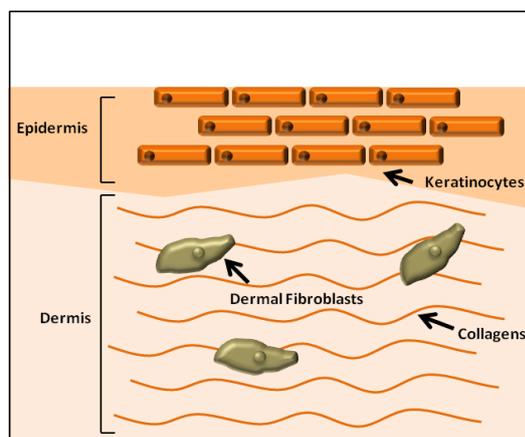


Figure 1: Structural organization of healthy, young skin

STUDY DESIGN:

Primary human dermal fibroblasts were grown under standard conditions in vitro. The effects of the MedColl® bio-marine collagen supplement on dermal fibroblast cell proliferation (cell division) were measured using a standard cell proliferation assay (MTT-based). Control cells were grown in normal medium with no supplements.

RESULTS and STUDY IMPLICATIONS:

The results show that the MEDCOLL® complex significantly increased the number of skin cells produced when treated with the complex.

The results of this study show that the MedColl® supplement significantly increased the rate at which dermal fibroblasts divide leading to increased numbers of fibroblasts. This increase leads to increased collagen production in the human skin.

Results presentation:

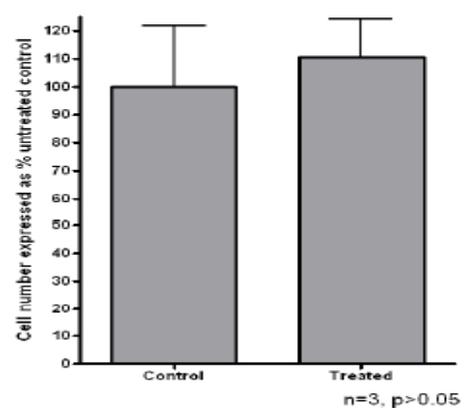


Figure 2: Human Dermal Fibroblast Cell Proliferation Assay

Human dermal fibroblasts were exposed to 100µg/ml MedColl supplement for 24 hours. Control cells were grown with no supplements. Cell proliferation was assessed using an MTT assay. MedColl exposed cells displayed a significantly higher rate of proliferation compared to control.