

# Scientific Study 2014

The Effects of MedColl® Bio-Marine Collagen Pre-cursor Supplement Components Anti-oxidant Activity in Human Dermal Fibroblasts

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Conway Institute of Biomolecular and Biomedical Science, University College Dublin, Ireland

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**BACKGROUND:** The appearance and function of human skin changes profoundly during aging and with exposure to external factors such as ultraviolet radiation and smoking. Exposure to these environmental insults results in the formation of reactive oxygen species (ROS) or free radicals. ROS are damaging molecules which can disrupt important cellular machinery. A large body of evidence exists indicating that damage to the cellular constituents by ROS is a major driving force for the aging process. Antioxidants protect the body from adverse effects of free radicals. The aim of this study was to examine the antioxidant activity of MedColl Derma® supplement components in human dermal fibroblasts in vitro.

**STUDY DESIGN:** Primary human dermal fibroblasts were grown under standard conditions in vitro. The effects of the MedColl Derma® supplement components on antioxidant activity was monitored by measuring the intracellular ROS, hydrogen peroxide (H<sub>2</sub>O<sub>2</sub>). Control cells were grown in normal medium with no supplements.

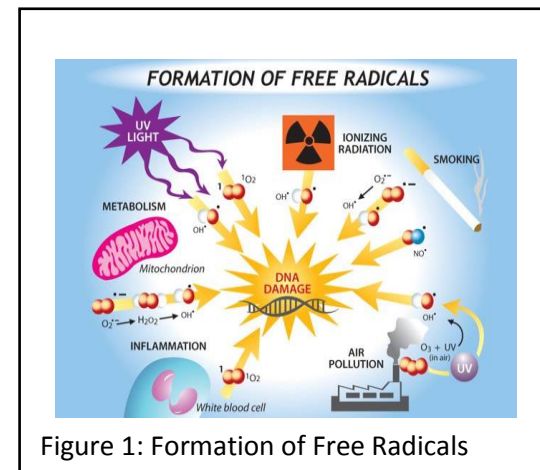


Figure 1: Formation of Free Radicals

**RESULTS and STUDY IMPLICATIONS:** The preliminary results of this study show that the MedColl Bio-marine Collagen Pre-cursor Complex™ alone significantly decreased intracellular H<sub>2</sub>O<sub>2</sub>. Additionally, co-treatment with anti-oxidants in MedColl Derma demonstrated significantly lower intracellular H<sub>2</sub>O<sub>2</sub> compared to control or MedColl Bio-marine Collagen Pre-cursor Complex™ alone. This decrease suggests MedColl Derma® has strong antioxidant activity in the human skin.