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Stimulation of Antioxidant Activity in Human Skin Dermal Cells with OysterMax®

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Introduction

There is increasing evidence that intrinsic and premature skin aging is the result of prolonged exposure to reactive oxygen species (ROS) produced during oxidative stress. Whilst skin possesses a complex antioxidant defence system to deal with oxidative stress, excessive or prolonged exposure to UV radiation during sunlight exposure or environmental agents such as pollution, smoke and alcohol can overwhelm the skin's antioxidant response, leading to oxidative damage and premature skin aging. As the effectiveness of the skin's antioxidant system is diminished with age, dietary supplementation with antioxidants may provide a protective strategy against age-associated skin oxidative damage. The aim of this study was to examine the effects of OysterMax® supplementation on antioxidant activity in human dermal fibroblasts.

Study Method

Normal primary human skin fibroblasts derived from adult female skin dermis were cultured in the laboratory by scientists for in-vitro testing. Antioxidant activity of OysterMax® was determined by monitoring the intracellular generation of ROS in dermal fibroblasts with a cell fluorescent label. Control cells were grown in medium with no supplements or with vitamin E, a well-known antioxidant.

Study Results

OysterMax® supplementation significantly stimulated antioxidant activity in skin dermal fibroblasts compared to the control during oxidative stress (figure 1).

Antioxidant activity in skin cells as demonstrated by OysterMax® is important as this activity can prevent or repair the damage caused by ROS, which has been incriminated in the development of wrinkles and premature skin ageing.

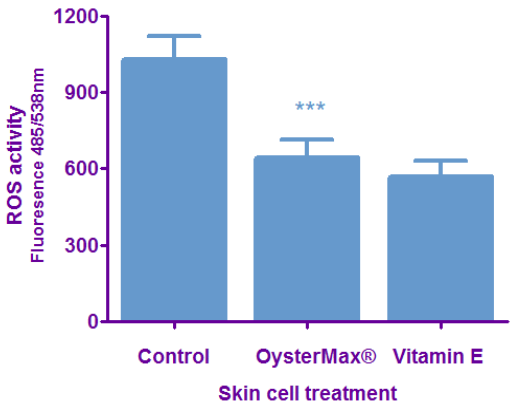

Figure 1. Human dermal fibroblast cells were treated with 125μg/mL OysterMax® for 24 hours. Control cells were cultured with no supplement (negative control) or with vitamin E (positive antioxidant control). (n= 4, *** p< 0.001).