

Scientific Study 2013

The Effects of MedColl® Bio-Marine Collagen Pre-cursor Supplement Components on ATP Production in Human Dermal Fibroblasts

MEDCOLL®

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

Dr. Hillary Cassidy, Dr. Robert Radford, Dr. Craig Slattery and Dr. Tara McMorrow



Scientific study 2013

MEDCOLL®

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

Dr. Hillary Cassidy, Dr. Robert Radford, Dr. Craig Slattery and Dr. Tara McMorrow

BACKGROUND: Mitochondria are the powerhouse of the cell, generating the majority of the cells energy in the form of ATP from nutrient, in a process which results in the formation of reactive oxygen species (ROS). ROS are a normal by-product of energy production, but are known to be damaging molecules which can disrupt the important cellular machinery. Indeed, mitochondria are the major site of ROS production but are also the major target of their detrimental effects. ROS damage, as seen in the ageing process, decreases mitochondrial activity, resulting in decreased energy supplies for the cells. Anti-ageing products, such as co-enzyme Q10 and alpha lipoic acid, have been shown to support mitochondrial function. The aim of this study was to examine the effect of MedColl® Bio-marine Pre-cursor Collagen supplement and it's components on ATP production in human dermal fibroblasts *in vitro*.

STUDY DESIGN: Primary human dermal fibroblasts were grown under standard conditions *in vitro*. The effect of the MedColl® Bio-marine Pre-cursor Collagen supplement components on ATP synthesis was monitored. Control cells were grown in normal medium with no supplements.

RESULTS and STUDY IMPLICATIONS: The preliminary results of this study show that the MedColl Bio-marine Pre-cursor Collagen Complex™ alone significantly increased ATP synthesis. Furthermore, co-treatment with MedColl Bio-marine Pre-cursor Collagen Complex™, Co-enzyme Q10 and Vitamin E demonstrated significantly higher ATP synthesis compared to control and MedColl Bio-marine Pre-cursor Collagen Complex™ alone. This increase suggests increased mitochondrial activity in human dermal cells.