

A Multifactorial Gene Expression Approach to Addressing Body Appearance Aging

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The advent of genomic research has opened up new ways of investigating skin and body aging. From the present and continuing into the foreseeable future, vast amounts of gene expression data will need to be evaluated to produce meaningful interpretations and conclusions. Among the most promising routes are methodologies that seek to understand the interactions of multiple genes during aging. Aging is the result of complex multifactorial influences occurring over time between lifestyle choices, environment and genome, necessitating the study of multiple genes and expression patterns in multiple tissues. Here we describe the ability of several skin care ingredients to favorably modify the genetic expression of a diverse group of genes important in body skin structure and appearance. Three skin-active ingredients were tested on human full-thickness 3D epidermal skin equivalents and primary human adipocytes. Gene expression was measured by quantitative PCR using custom TaqMan Low Density Arrays (TLDA). Compared to each other, each ingredient exhibited some common and many unique genetic expression changes suggesting that comprehensive anti-aging product be composed of more than one ingredient to affect the necessary changes in expression of groups of genes involved in aging.