

+7/ -7 Why Some of Us Look Younger—or Older—than We Are

BACKGROUND

Although the skin care industry has made some significant progress toward the correction and prevention of the visible signs of aging, there are still many unknown factors regarding why we age—and why we all seem to age differently. The effects of the sun and the environment are fairly well understood and highly effective sunscreens exist to help us avoid the aggressive aging effects of ongoing exposure. Less understood are the biological or intrinsic processes that affect our appearance over time.

Recently, scientists at Purdue University in collaboration with Nu Skin Research and Development, have discovered a new and potentially significant internal source of aging—an enzyme called arNOX. Present on the surface of our cells, this enzyme is capable of generating skin damaging free radicals in the epidermis around the clock. Mostly inactive in our youth, activity levels of arNOX increase as we age and vary by individual.

To learn more about how a person's arNOX activity levels might correlate to their real or perceived age, in 2006 Nu Skin collaborated on a research study with Purdue University and the Stanford School of Medicine. The results will be presented at the 25th International Federation of Societies of Cosmetic Chemists Congress to be held in Barcelona, Spain in October 2008.

STUDY TITLE

A Randomized Pilot Study of the Relationship between arNOX Levels and Appearance of Aging Skin

Participants : 25 females, ages 45-65

METHODS

Using a VISIA complexion analysis machine, close-up images of the faces of twenty five women between 45 and 65 years of age were taken and analyzed. Assessments were made of key indicators of aging skin such as wrinkles, pore size, evenness of color, porphyrins, and UV spots.

A panel of independent clinical skin graders reviewed the close-up photographs taken by the VISIA and estimated each participant's chronological age based on the condition of their skin. The professional panel estimated ages were averaged for each subject, and then compared to subject's actual age.

The arNOX enzyme activity levels from each test subject were determined by drawing blood samples which were then processed and analyzed at Purdue University. Finally, researchers compared and correlated each participant's professionally estimated chronological skin age and real age with the arNOX activity levels in the blood.

RESULTS

According to preliminary data, a correlation exists between arNOX activity levels and errors in estimating participants' chronological skin ages as estimated by professional graders. In other words, the apparent visible ages of those with higher arNOX activity levels were estimated to be an average of seven years older than their chronological age while the apparent visible ages of those individuals with lower arNOX activity levels were estimated to be an average of seven years younger than their chronological age. This suggests that low activity levels of arNOX may result in looking visibly younger—as we get chronologically older.