Время не властно!

Nu Skin 2008

Сегодня компания представляет еще одно мощное оружие в арсенал, которое позволит бизнесу сделать огромный скачок!

Это Гели для ухода за кожей лица Galvanic Spa с технологией «БЛОКИРУЕМ возраст».

ageLOC™

Nu Skin 2008

- Американские ученые университета в Пардью недавно обнаружили основную, скрытую до сего времени, причину возрастных изменений кожи – это внутренний «ускоритель» старения в эпидермисе, уровень которого с возрастом увеличивается. Их активность управляется генами.

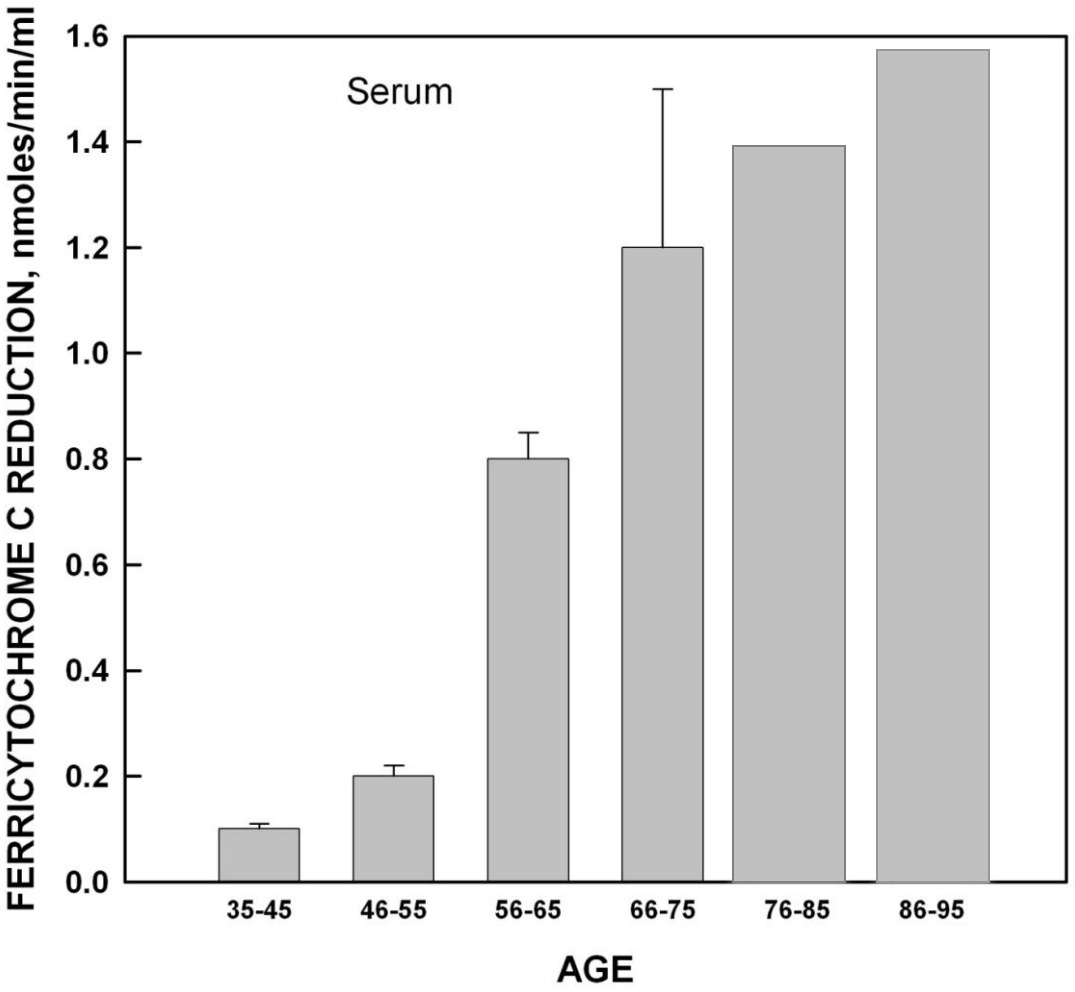
PURDUE
UNIVERSITY

Враг, который отвечает за старение кожи

Энзим arNOX был выявлен во всех протестированных клетках, включая сыворотку крови и слюну, а также в дерме и эпидермисе. Он способствует повреждению коллагена и эластина.

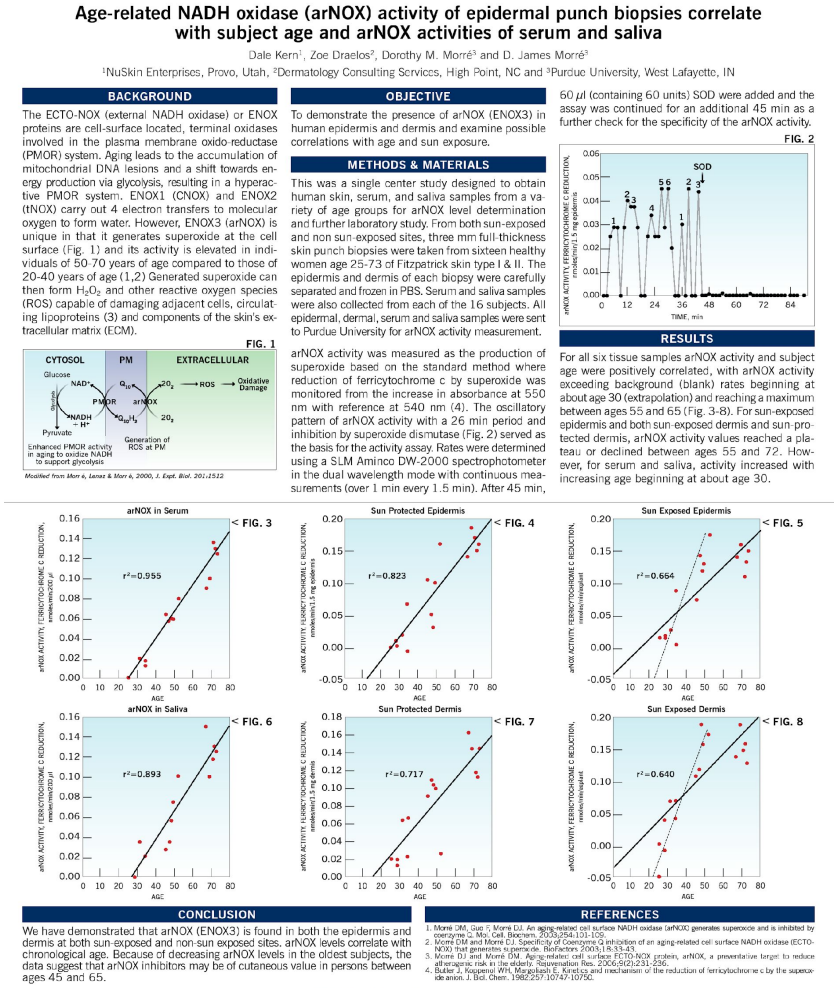
Возрастная корреляция содержания энзима arNOX

Энзим arNOX начинает свое активное действие, начиная с 35 лет, количество его увеличивается с



Презентация о результатах научного исследования

- Ученых Nu Skin пригласили выступить с результатами проведенного исследования на всемирной научной конференции в Киото.



Age-related NADH oxidase (arNOX) activity of epidermal punch biopsies correlate with subject age and arNOX activities of serum and saliva

Dale Kern[1], Zoe Draelos[2], Dorothy M. Morré[3] and D. James Morré[3]

[1]NuSkin Enterprises, Provo, Utah, [2]Dermatology Consulting Services, High Point, NC and [3]Purdue University, West Lafayette, IN

BACKGROUND

The ECTO-NOX (external NADH oxidase) or ENOX proteins are cell-surface located, terminal oxidases involved in the plasma membrane oxido-reductase (PMOR) system. Aging leads to the accumulation of mitochondrial DNA lesions and a shift towards energy production via glycolysis, resulting in a hyperactive PMOR system. ENOX1 (CNOX) and ENOX2 (tNOX) carry out 4 electron transfers to molecular oxygen to form water. However, ENOX3 (arNOX) is unique in that it generates superoxide at the cell surface (Fig. 1) and its activity is elevated in individuals of 50-70 years of age compared to those of 20-40 years of age (1,2) Generated superoxide can then form H_2O_2 and other reactive oxygen species (ROS) capable of damaging adjacent cells, circulating lipoproteins (3) and components of the skin's extracellular matrix (ECM).

FIG. 1

Modified from Morré, Lenaz & Morré 6, 2000, J. Expt. Biol. 201:1512

OBJECTIVE

To demonstrate the presence of arNOX (ENOX3) in human epidermis and dermis and examine possible correlations with age and sun exposure.

METHODS & MATERIALS

This was a single center study designed to obtain human skin, serum, and saliva samples from a variety of age groups for arNOX level determination and further laboratory study. From both sun-exposed and non sun-exposed sites, three mm full-thickness skin punch biopsies were taken from sixteen healthy women age 25-73 of Fitzpatrick skin type I & II. The epidermis and dermis of each biopsy were carefully separated and frozen in PBS. Serum and saliva samples were also collected from each of the 16 subjects. All epidermal, dermal, serum and saliva samples were sent to Purdue University for arNOX activity measurement.

arNOX activity was measured as the production of superoxide based on the standard method where reduction of ferricytochrome c by superoxide was monitored from the increase in absorbance at 550 nm with reference at 540 nm (4). The oscillatory pattern of arNOX activity with a 26 min period and inhibition by superoxide dismutase (Fig. 2) served as the basis for the activity assay. Rates were determined using a SLM Aminco DW-2000 spectrophotometer in the dual wavelength mode with continuous measurements (over 1 min every 1.5 min). After 45 min, 60 μl (containing 60 units) SOD were added and the assay was continued for an additional 45 min as a further check for the specificity of the arNOX activity.

FIG. 2

RESULTS

For all six tissue samples arNOX activity and subject age were positively correlated, with arNOX activity exceeding background (blank) rates beginning at about age 30 (extrapolation) and reaching a maximum between ages 55 and 65 (Fig. 3-8). For sun-exposed epidermis and both sun-exposed dermis and sun-protected dermis, arNOX activity values reached a plateau or declined between ages 55 and 72. However, for serum and saliva, activity increased with increasing age beginning at about age 30.

FIG. 3

FIG. 4

FIG. 5

FIG. 6

FIG. 7

FIG. 8

CONCLUSION

We have demonstrated that arNOX (ENOX3) is found in both the epidermis and dermis at both sun-exposed and non-sun exposed sites. arNOX levels correlate with chronological age. Because of decreasing arNOX levels in the oldest subjects, the data suggest that arNOX inhibitors may be of cutaneous value in persons between ages 45 and 65.

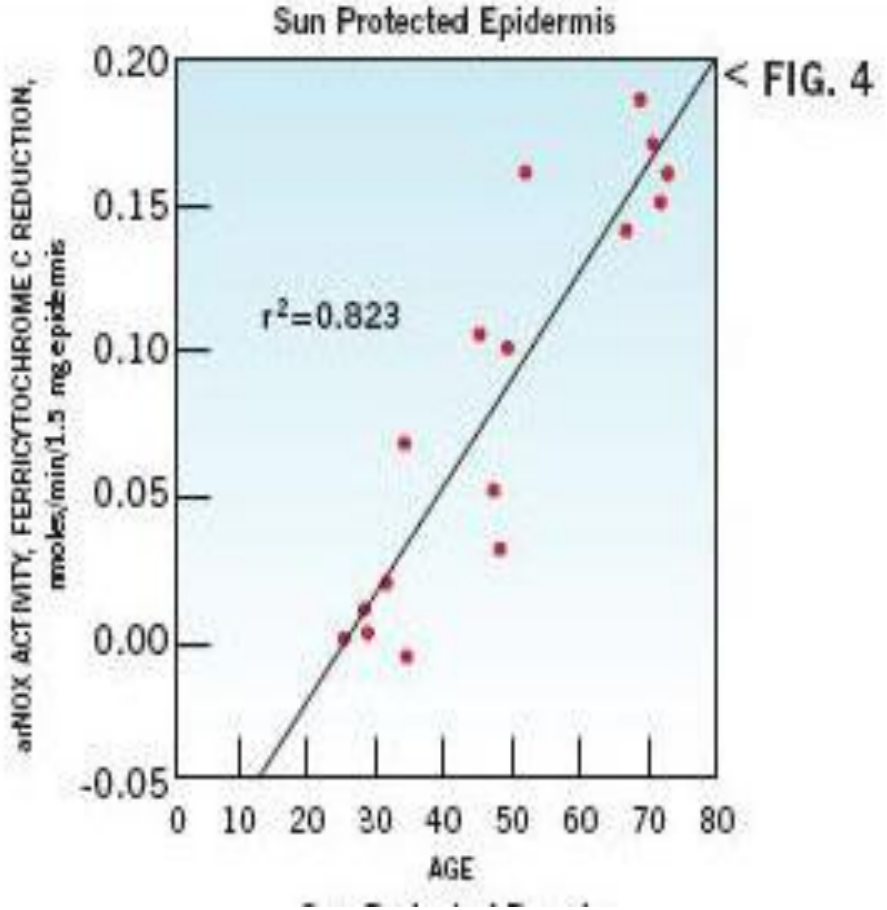
REFERENCES

1. Morré DM, Guo F, Morré DJ. An aging-related cell surface NADH oxidase (arNOX) generates superoxide and is inhibited by coenzyme Q. Mol. Cell. Biochem. 2003;254:101-109.
2. Morré DM and Morré DJ. Specificity of Coenzyme Q inhibition of an aging-related cell surface NADH oxidase (ECTO-NOX) that generates superoxide. BioFactors 2003;18:33-43.
3. Morré DJ and Morré DM. Aging-related cell surface ECTO-NOX protein, arNOX, a preventative target to reduce atherogenic risk in the elderly. Rejuvenation Res. 2006;9(2):231-236.
4. Bubler J, Koppenol WH, Margoliash E. Kinetics and mechanism of the reduction of ferricytochrome c by the superoxide anion. J. Biol. Chem. 1982;257:10747-10750.

NU SKIN ENTERPRISES

Активность энзима arNOX, находящихся в клетках кожи по сравнению с возрастом

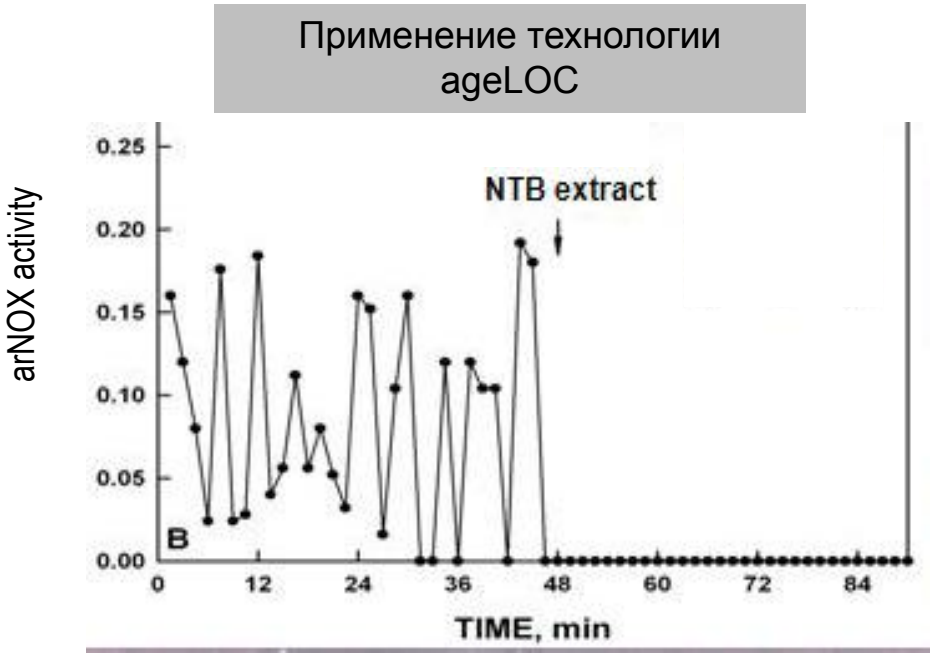
С возрастом уровень энзима arNOX в клетках увеличивается.



Выглядеть моложе с низким уровнем содержания энзима arNOX

Результаты недавно проведенного учеными Стенфордского университета исследования показали, что люди с низким содержанием энзима arNOX выглядят, в среднем, на семь лет моложе. В свою очередь высокий уровень энзима arNOX прибавляет, в среднем, семь лет.

AgeLOC подавляет энзим arNOX



Доказано, что составляющие технологии ageLOC препятствуют действию свободных радикалов, ассоциирующихся с энзимом arNOX. Это способствует замедлению процессов старения, возникающих в результате интенсивной выработки свободных радикалов.

Применение технологии «БЛОКИРУЕМ возраст» практически мгновенно прекращает активность энзима arNOX.

Эта ЭКСКЛЮЗИВНАЯ ТЕХНОЛОГИЯ принадлежит ТОЛЬКО компании Nu Skin.

US006878514B1

(12) **United States Patent**
Morré et al.

(10) **Patent No.: US 6,878,514 B1**
(45) **Date of Patent: Apr. 12, 2005**

(54) **METHODS FOR IDENTIFYING AGENTS THAT INHIBIT SERUM AGING FACTORS AND USES AND COMPOSITIONS THEREOF**

(75) Inventors: **Dorothy M. Morré** , West Lafayette, IN (US); **D. James Morré** , West Lafayette, IN (US)

(73) Assignee: **Purdue Research Foundation**, West Lafayette, IN (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: **09/536,551**

(22) Filed: **Mar. 28, 2000**

Related U.S. Application Data

(60) Provisional application No. 60/126,894, filed on Mar. 30, 1999.

(51) **Int. Cl.**[7] **C12Q 1/00**; A61K 49/00;

Arroyo et al., 1998, "Ubiquinol regeneration by plasma membrane ubiquinone reductase", Protoplasma 205:107–113.

Aruoma, 1996, "Characterization of drugs as antioxidant prophylactics", Free Rad Biol Med 20:675–705.

Austin, 1997, "Recent progress in treatment and secondary prevention of breast cancer with supplements", Alt Med Rev 2 4–11.

Balcavage and Alvager, 1982, "Reactions of malonaldehyde with mitochondrial membranes", Mech Ageing Dev.19(2):159–7.

Battino et al., 1995, "Coenyme Q content in synaptic and non–synaptic mitochondrial from different brain regions in the ageing rat", Mech Ageing Dev 78(3):173–87.

Beyer, 1994, "The role of ascorbate in antioxidant protection of biomembranes: interaction with vitamin E and coenzyme Q", J Bioenerg Biomembr 26(4):349–58.

Beyer et al., 1997, "The two–electron quinone reductase DT–diaphorase generates and maintains the antioxidant (reduced) form of coenzyme Q in membranes", Mol Aspects Med 18 Suppl:S15–23.

Beyer and Ernster, 1990, Highlights of Ubiquinone Research (Taylor & Francis, London) pp. 191–213.

Beyer et al., 1996, "The role of DT–diaphorase in the maintenance of the reduced antioxidant form of coenzyme Q

Эта ЭКСКЛЮЗИВНАЯ ТЕХНОЛОГИЯ принадлежит ТОЛЬКО компании Nu Skin.

US 20050226947A1

(19) **United States**

(12) **Patent Application Publication** (10) **Pub. No.: US 2005/0226947 A1**

Kern (43) **Pub. Date: Oct. 13, 2005**

(54) **AGENTS FOR SEQUESTERING SERUM AGING FACTORS AND USES THEREFORE**

(76) Inventor: **Dale Kern**, Hyde Park, UT (US)

Correspondence Address:
Michael F. Krieger
Kirton & McConkie
P.O. Box 45120
Salt Lake City, UT 84145 (US)

(21) Appl. No.: **11/049,585**

(22) Filed: **Feb. 2, 2005**

Related U.S. Application Data

(60) Provisional application No. 60/541,615, filed on Feb. 4, 2004.

Publication Classification

(51) **Int. Cl.**[7] **A61K 35/78**

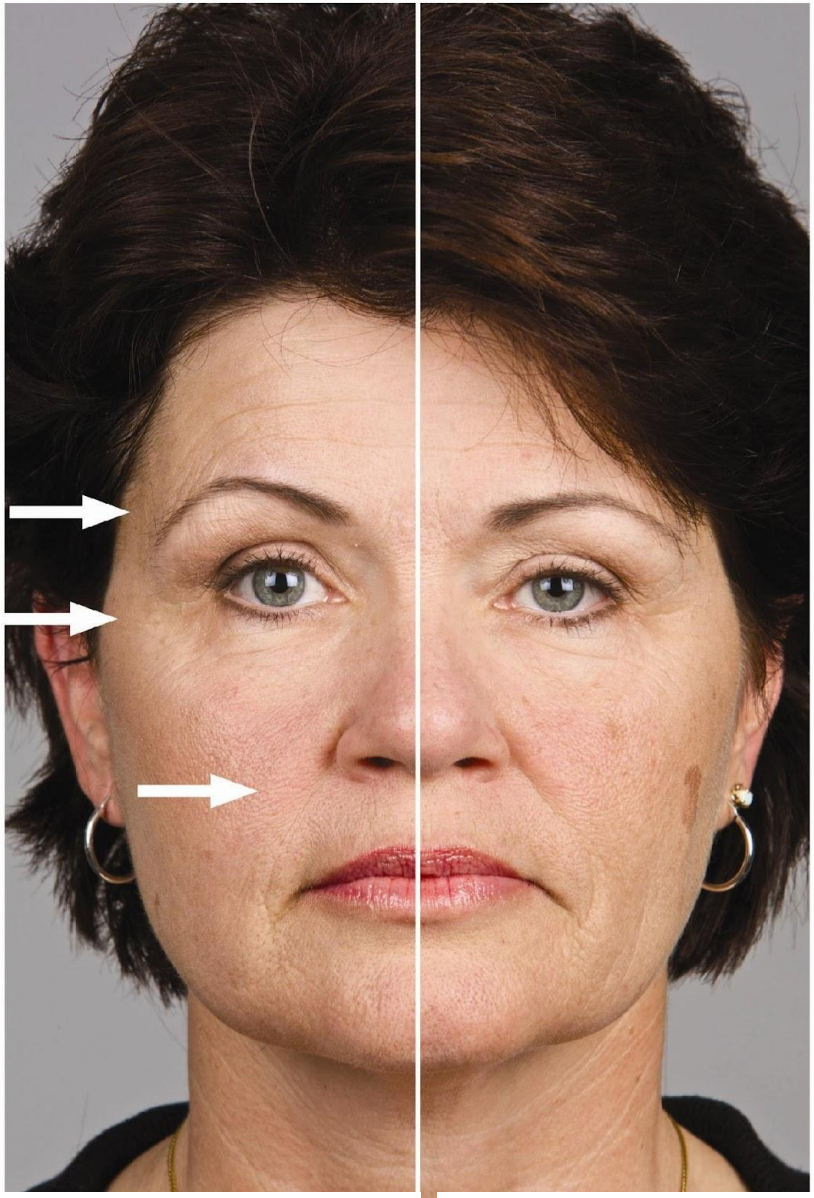
(52) **U.S. Cl.** **424/753**

(57) **ABSTRACT**

Methods for the prevention or treatment of disorders and complications of disorders resulting from cell damage caused by an aging-related isoform of NADH oxidase (arNOX) are described. The agent for such inhibition comprises processed various *Narcissus tazzeta* extracts, preferably IBR-DORMIN®, both alone and in combination with other inhibition agents, including ubiquinones like coenzyme Q. These agents bind arNOX and inhibit the ability of arNOX to generate reactive oxygen species, thereby decreasing the ability of arNOX to generate reactive oxygen species. Such agents, and their methods of administration, as extremely effective as part of anti-aging treatments.

Гели для ухода за кожей лица Galvanic Spa™ от компании Nu Skin® с *НОВОЙ* технологией ageLOC™

Теперь в формулу гелей для ухода за кожей лица Nu Skin Galvanic Spa входит запатентованное сочетание уникальных ингредиентов технологии ageLOC, которые эффективно замедляют процессы старения в клетках кожи.



После проведения процедуры

До проведения процедуры

После проведения процедуры

До проведения процедуры

После проведения процедуры

До проведения процедуры

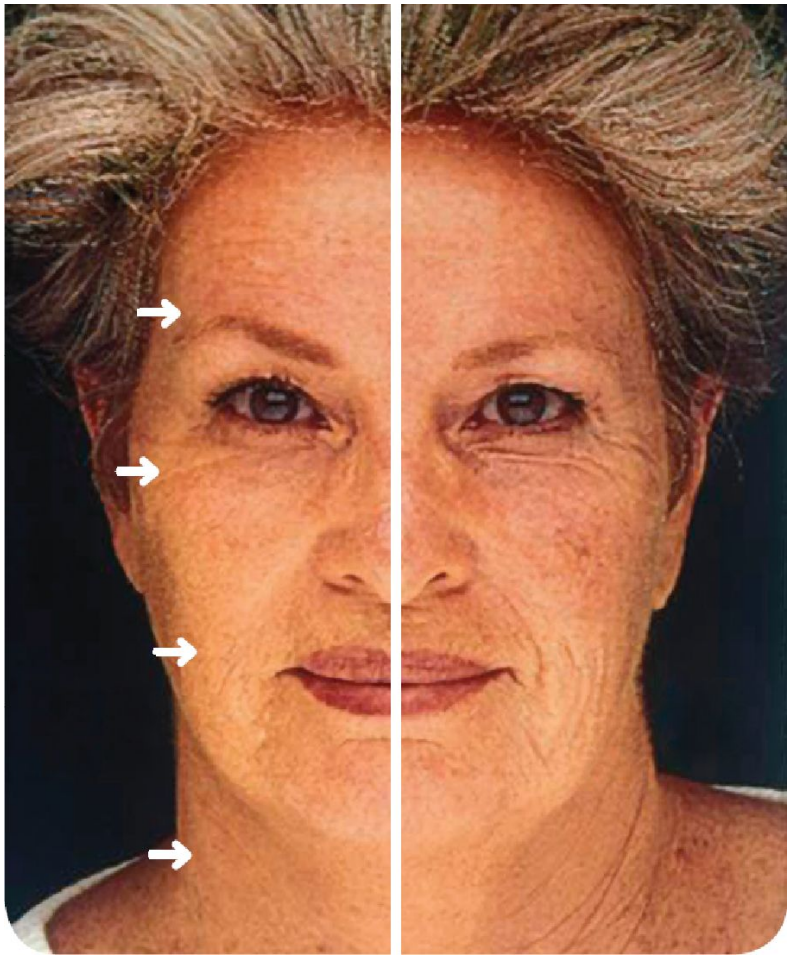
ageLOC™

Time will never tell.

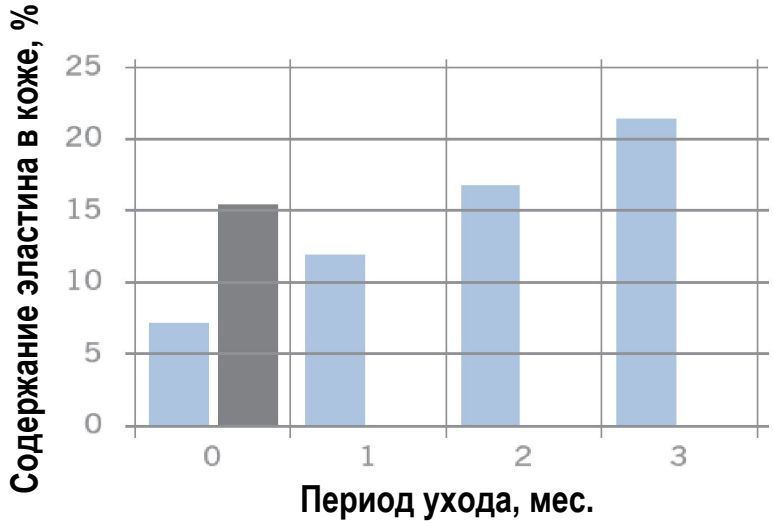
Эластин как в 20 лет

Tru Face Essence Ultra®

Клинические исследования Tru Face Essence Ultra®



Повышение содержания эластина в зрелой коже (40-77 лет) по сравнению с его содержанием в коже 18-25 летних



Контрольная группа, 18-25 лет

Группа людей, применяющих Tru Face Essence Ultra, 40-77 лет

Время не властно!