

ANTI-AGING SCIENCE

WHAT IF YOUR BODY HAD A ‘RESET’ BUTTON?

Ribbit-ing Innovation in Cellular Regeneration and Repair

BY CARA JAY



Dr. Sergei Paylian, Bioquark President, Founder and Chief Scientific Officer

The trend of plastic surgery to reverse the effects of aging has increased tremendously in recent years. However, achieving a younger appearance through surgery may one day soon prove unnecessary. Bioquark Inc., a biopharmaceutical company currently developing proprietary biological drugs, armed with an amphibian-derived biochemical mixture called BQ-A, aims to make going under the knife a fad of the past.

AMPHIBIANS & AGING

Students in elementary school learn that amphibians are capable of regenerating lost tails and other appendages. Dr. Sergei Paylian, Bioquark President, Founder and Chief Scientific Officer, took these clues from nature to the lab and got to work on the “cure” for aging, diseased and degenerating cells. “Some species of amphibians and reptiles sprout the missing parts of the body after amputation. These regenerative mechanisms continue to work successfully in nature nowadays, millions of years later,” said Dr. Paylian.

After years of studying epimorphosis — essentially nature’s “restart” button as it were — and oocytes, the human biological “restart,” scientists at Bioquark presented their findings and plans for the future in September of 2012 at the Rodman and Renshaw Annual Global Investment Conference in New York City.

“Existence of the reprogramming signaling system in amphibian oocytes of African frog *Xenopus Laevis* was demonstrated for the first time by Nobel Prize winning professor John Gurdon (UK) as far back as 1968, in which frog oocyte extracts were co-cultured with adult human cells,” said Dr. Paylian. Bioquark has refined this research and discovered that under a special incubation process, post-activated frog oocytes are able to release a very powerful reprogramming semiochemical, allowing the oocytes to trigger other cells to “restart.” And voilà, a previously damaged cell is transformed to a younger, healthier state.

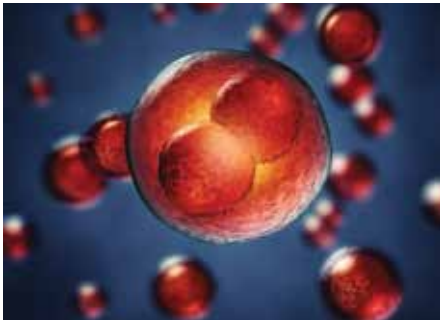
Scientists at Bioquark have successfully discovered how to use these principles and apply them to anti-aging technologies. In laboratory studies using BQ-A, Bioquark has increased the lifespan of mice and fruit flies by twice the standard life expectancy. In addition, BQ-A has reversed typical signs of aging like wrinkling skin and baldness.

Bioquark studies have also had revolutionary results regarding melanoma skin cancer. After 45 days of injections, mice infected with melanoma made a full recovery.

“We have an aggressive yet very disciplined program. Bioquark is offering a solution that

can both address regeneration and repair, be delivered to a patient in a traditional biopharmaceutical format, and would be cost effective,” said Ira Pastor, CEO Bioquark Inc.

Bioquark is excited to begin human trials in the near future and is currently continuing to raise funds to fuel their revolutionary research. Ira Pastor foresees cosmetic applications of their technology to be available



Oocytes— The human biological restart button.

to the public within the next three years. “Bioquark brings to the table possibilities for not just disease treatment but for disease cure, and we look forward to bringing this therapeutic opportunity to the marketplace to the United States and globally,” he said. ●

For more information on Bioquark Inc., visit www.bioquark.com.

TURNING BACK THE CLOCK

BY CYNTHIA TERPSTRA

Is it possible to rejuvenate aging skin? Tony Vargas, CEO of Vargas Cosmetics and former vice president of new technology for Elizabeth Arden and former development chemist for Avon, provides a look at the skin care industry and the latest trends.

THE AGING PROCESS

Over time, skin becomes thinner, less elastic, and less smooth. As a result, wrinkles and sagging skin become more apparent. Two distinct types of aging play a role in our skin’s appearance. *Intrinsic* aging is a continuous and inevitable process that typically becomes noticeable in our mid-20s. Production of collagen — a major structural component of the skin — slows. Elastin — the substance that allows skin to snap back when stretched — loses its elasticity. Old skin cells do not shed as quickly and turnover of new skin cells is depressed. *Extrinsic* aging, which is most associated with premature aging, is caused by external factors such as UV radiation and smoking and can be controlled.

ANTI-AGING PRODUCTS

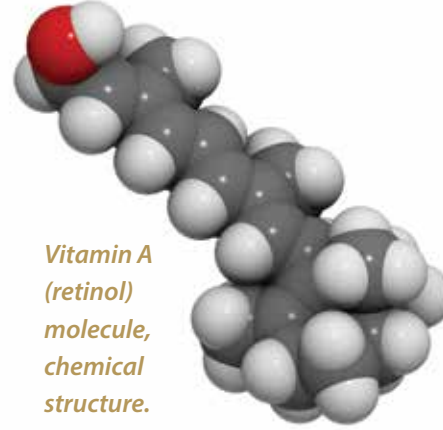
The skin care industry shifted its focus from primarily moisturizers to skin cell renewal around the early 1980s with vitamin A and vitamin C taking center stage.

Vitamin A and its derivatives (e.g., retinol) promote healthy skin cell turnover. Vitamin C promotes collagen production.

The next phase in skin care included Alpha Hydroxy Acids (AHAs), botanicals, and antioxidants. AHAs are a group of natural acids found in foods and include citric acid, glycolic acid, lactic acid, malic acid (in apples), and others. In skin care, botanicals refer to plant materials (herbs, roots, flowers, fruits, leaves or seeds) and are chosen for their healing properties, such as antioxidants and vitamins.

One of the latest advancements in the skin care industry is peptides. Peptides are naturally occurring chains of amino acids, which make up the proteins in your body. Synthetic variations of peptides are used to perform different functions including stimulation of collagen production, which plumps up the skin to reduce the appearance of wrinkles.

Vargas believes that companies will continue to offer a combination of older technologies (retinols) and newer ones (antioxidants and peptides). Natural, sustainable ingredients, such as botanicals (e.g., green tea) and antioxidant rich fruit extracts will remain popular.



Vitamin A (retinol) molecule, chemical structure.

RESEARCH & FUTURE TRENDS

Today, there is a dizzying array of skin care products on the market for consumers to buy, each making claims to reduce the signs of aging. Dermatologists recommend using products based on strong science and that have proven safe and effective in humans. Published research supports the efficacy of vitamins A and C, antioxidants, and peptides in topical anti-aging treatments.

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