



## THE SCIENCE BEHIND AGERA Rx®

The human skin is the largest organ of the body and one of the most maligned and abused. We burn it, lase it, scrape it as well as place every conceivable plant extract or potentially irritating substance upon it. We spend billions on creams, ointments, elixirs, and potions in an attempt to slow down our natural DNA clock.

Perhaps “hope-in-a-jar” is available but anti-ageing “performance-in-a-jar” is not!

The vast numbers of marketed products are innocuous and totally ineffective (i.e. cause no effect on the metabolic process of the skin) in slowing down or altering the ageing process despite their claims.

### WHY?

The skin responds to a number of internally generated factors. Topical applications need to penetrate through the epidermis into the dermis to be able to truly claim to be anti-aging. It is in the dermis where the fibroblasts need to be selectively targeted to have any effect on cell proliferation and new collagen and elastin production. This will result in a visibly thickened and strengthened skin helping to reverse the ageing process.

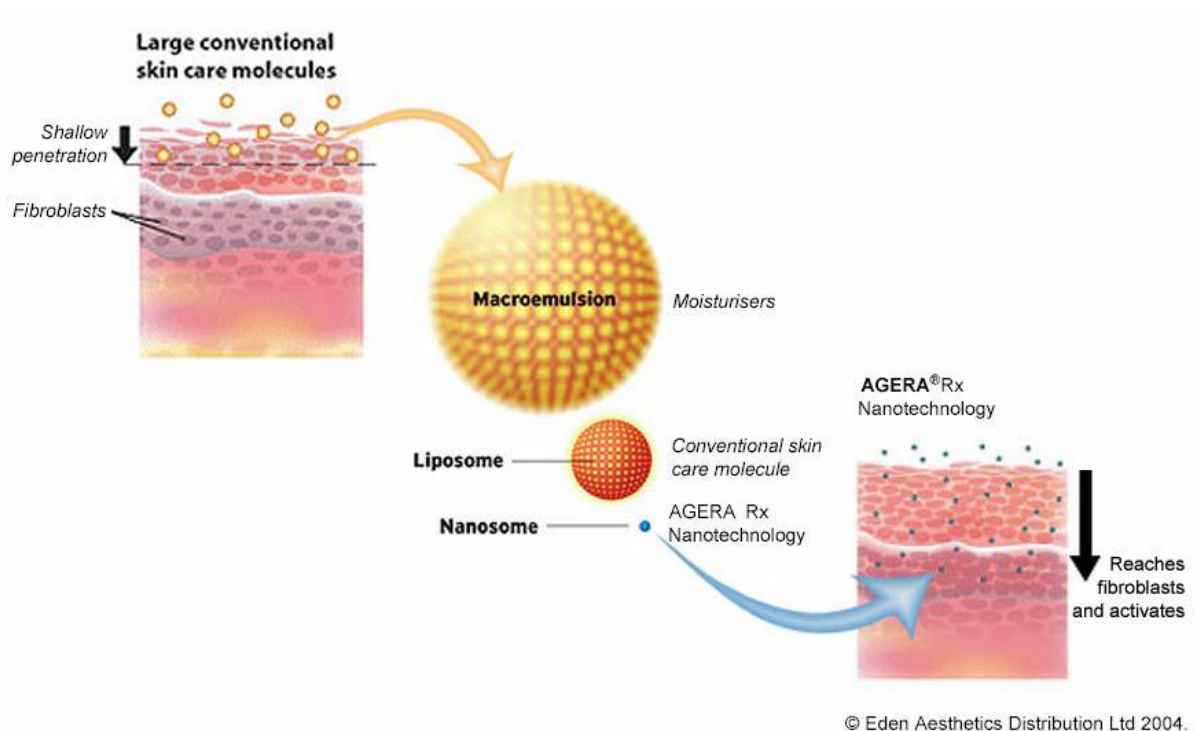
So what makes AGERA® Rx different?

After 10 years of research we now at last have a skincare line that can truly claim to be anti-ageing. Dr Don Owen and his team of scientists have pioneered and developed the research, which has unravelled the reasons for the ageing process in the skin. Dermatological research forms an integral part

of the Agera® philosophy and provides the answer to the problem of ageing skin.

Bioemulsion technology – How Agera® Rx gets into the skin

AGERA® Rx formula contains particles that varies between 30-200 micrometres allowing the AGERA® Rx skin care range to descend into the deeper layers (dermis) of the skin.

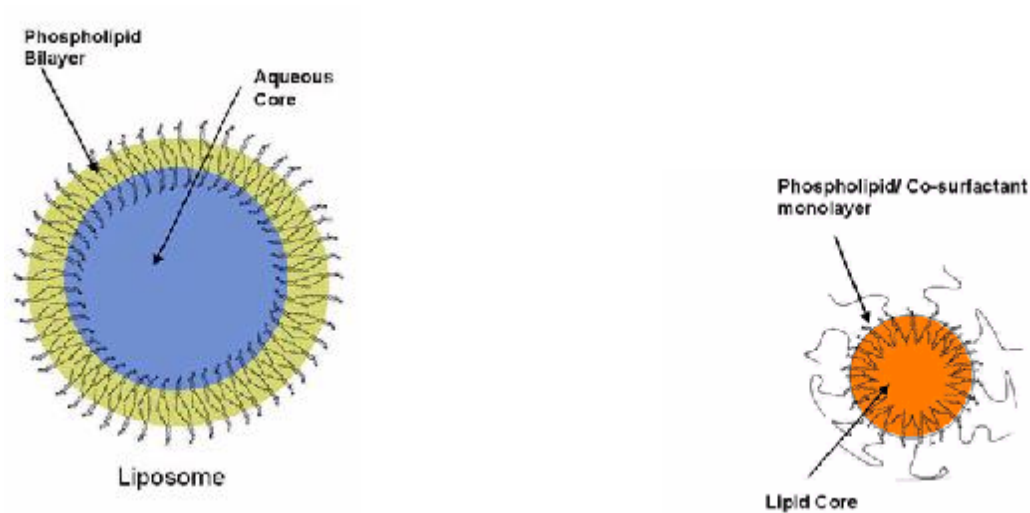


◆ Skin care products are limited in the penetration that they achieve into the skin by virtue of their relatively large molecular size. Current research shows that particles must be smaller than 600 micrometres to be able to pass through the stratum corneum (outer skin layer) into the dermis. Until now the smallest commercially available particle was 1200 micrometres (liposomes) which is why existing skin care ranges fail to penetrate further than the outer skin layer.

Lipid based for cell penetration

The AGERA® Rx microparticles are made from lipid based particles rather

than water thus ensuring that these products move quickly and easily into the deeper layers of the skin.



◆ Traditional skin care is based on water-soluble materials that are not well absorbed by the skin; the skin being a lipid structure provides a very effective barrier to water based products. This may in part explain their limited impact on the skin.

Newer technologies are moving towards more dramatic effects requiring activity on cellular components within the skin other than keratinocytes. Many of the newer approaches are exploring the use of agents, which are similar, or mimic naturally occurring factors produced within the body.

◆ Skin care technology has moved into the bioactive arena where products do cause observable changes. The retinoids (i.e. retinoic acids and esters) and the alpha-hydroxy acid based products (i.e. glycolic acids, lactic acid etc.) have produced a consumer who expects to see changes on the application of a topical product.

These products appear to only affect the epidermis resulting in increased keratinocyte turnover and only modest epidermal thickening. However this does result in a limited improvement of the skin.

Growth Peptides – the body’s messengers for youth

The years of dedicated biotechnology research have resulted in the development of the AGERA® Rx range of growth peptides. These peptides or protein messengers are the means by which the body controls the activity of the skin cells. Growth factor levels decline as we age, causing the skin to thin and lose its elasticity. Replacing these declining levels of growth factor peptides is the key to reversing and preventing the ageing process in the skin.

The powerful Growth factor peptides found in AGERA® Rx anti-ageing products are delivered by bioemulsion technology and descend deep into the skin and target the fibroblast cells, stimulating the cells (fibroblasts) to produce new collagen and elastin. This results in a denser stronger dermis and a thicker epidermis, for firmer, thicker, younger looking skin.

AGERA® Rx growth peptides have been synthesised by revolutionary biotechnology and are exact copies of the skin’s normal messengers and not been extracted from human sources. They work mimetically not adding foreign substances and do not have a systemic action.

Bio engineered constituents – scientifically validated skincare

AGERA® Rx formula has emerged from extensive research and development of human cell culture, cruelty free animal testing and use on human volunteers. Sophisticated human based cell studies have been used to validate the effects of the AGERA® Rx range of growth peptides. We can therefore be sure these growth peptides will deliver the desired effect on the skin.

Growth peptides – Unique to AGERA®

Prolifersyn™ - Derived from IGF (insulin growth factor) fragments. Direct stimulation on cell proliferation by acting on the fibroblasts.

Collasyn™ - Oligopeptide. Synthetically produced collagen and elastin which results in increase protein synthesis without injury. Collasyn™ MKS, a mixture of the phospholipid complex of the oligopeptides and their alkylated derivatives (i.e., myristoyl -KTTKS, myristoyl -VEIPY ) has been found to maximize the proliferative benefits while minimizing irritation. While Matrixyl® is not recommended for direct use on wounds or with retinol, Collasyn™ MKS can be used in these applications

Stimulysin™ - A family of small cationic peptides with complex amino acid sequences which possess both mammalian cell stimulatory properties as well as antimicrobial activity which destroys yeast and bacteria. These peptides and their lipid conjugates offer low toxicity with excellent antimicrobial activity and yet are stimulating to fibroblasts and/ or keratinocytes and are ideal in wound healing applications where their antimicrobial properties aid in the prevention of infection and their stimulatory properties dramatically influence final results.

IGF – Insulin like growth factor responsible for the control of cell activity increasing all turnover and synthesis of various problems including collagen. It significantly improves epidermal thickness and dermal density.

Agera® Rx delivery of retinol

Bioemulsion technology is used in the AGERA® Rx range to encapsulate the retinol product in a minute lipid coated particle to ensure penetration into the skin layers. Micro particles with their varying size and electrical charge penetrate the skin in a phased manner with a sustained absorption.

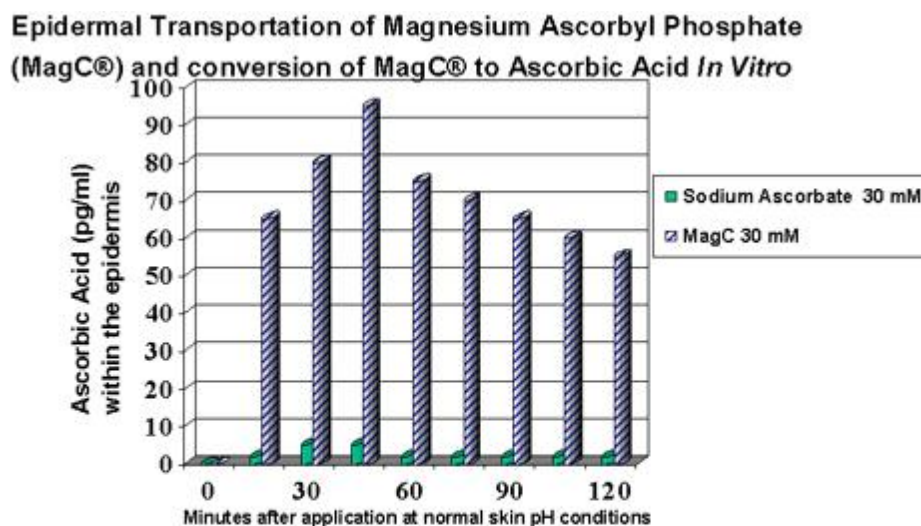
Antioxidants

AGERA® Rx antioxidants have been designed to scavenge and neutralise free radicals that have been produced by the skin. AGERA® Rx contains the

most potent antioxidants Vitamins A, C and E.

AGERA® Rx delivering the most stable and active Vitamin C

Topical antioxidants like vitamin C must be in a form that can be utilised by the skin. It should therefore be stable and in high concentrations with a PH neutral. Extensive research in America has led to the production of vitamin C compounds that are PH neutral, coated in magnesium ascorbal phosphate for stability and giving the highest levels of skin penetration in a molecular form which is most suitable for utilisation by skin cells. This in combination with the latest growth peptides provides the skin with the very latest treatment to protect against the affects of free radicals and the damaging ageing process.



**MagC® permeates the epidermis and is converted to ascorbic acid with long term duration. Sodium ascorbate however, does not permeate the epidermis under physiologic pH (i.e., neutral) conditions. Acidic conditions (i.e., below 3.5) are required for ascorbic acid penetration.**