



HYDRASPHERETM

Skincare & Haircare Active

**LIQUID FREE ION MAGNESIUM
MINERALS +78 TRACE ELEMENTS**



Changing the boundaries of applications for Magnesium Minerals and Trace Elements through Clinical Science and Patented Technology.

**New Technology,
New Science,
New Source,
New Form**



INNOVATIVE FUNCTIONAL NATURAL PROVEN

TRANSFORMING MAGNESIUM MINERALS & TRACE ELEMENTS TO THE MOST BIOAVAILABLE FORM

Science



7 Years Published
Medical & Nutrition
Cardiovascular
Epigenetics & Immune

Technology



Global Patents
Hydrasphere™
Proprietary Delivery
Blood Platelets in Mins

Innovation



Liquid Free Ion
Magnesium Minerals
& Trace Elements
No Taste/Odour/Color

Nature



Protected EU Source
100% Pure from Nature
100% Sustainable
Organic Process



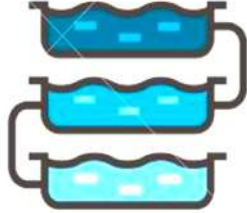
Step 1



FILTRATION

Multiple levels of filtration bring seawater to NTU of 0.5 prior to first stages of separation

Step 2

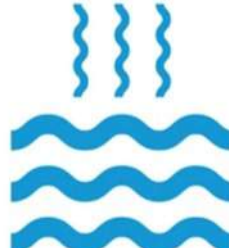


SEPARATION

Pressurised crystallisation & removal of

- Calcium
- Sulphate
- Sodium
- Chloride

Step 3



EVAPORATION

Evaporation of H2O until a unique ratio and balance of Minerals to Water is reached.

Step 4



CONCENTRATION

Pressurised concentration, forces natural scientific fusion of H2O and Minerals. H2O forms Protective Sphere around Minerals



Step 5

HYDRATION SHELL ENCAPSULATION



FREE ION PROTECTION

Protective Sphere of H2O protects Minerals until absorption to cells causes sphere to safely fall away



Using Patented technology, we have altered the ratio and balance of magnesium, minerals and trace minerals which, at a molecular level, are acting in a mutually supportive manner to our cells, to improve bioavailability, efficacy, speed and cellular response, in a dynamic and novel manner



Hydrasphere

Hydrasphere™

Magnesium, Minerals & Trace Elements

Hydration Shell Technology

Everything you heard about Magnesium, Minerals & Trace Elements just evolved. Oriel is completely different to all previous forms. The only unbound liquid Free Ion form (as exists within our cells) protected within their Hydration Shell until they reach their destination. Direct Absorption capacity via Transdermal, Oral or Sublingual to cells in minutes is now possible.

All other forms of Magnesium are powder based, mined from the earth and in bound form. (chloride, malate, glycinate etc.) so absorption is compromised whether thru the digestive system or transdermal absorption.

The problem, until now, is all other forms are dissolved powders, so absorption capacity is hugely compromised. **Free Ion Magnesium, Minerals & Trace Elements did not previously exist. This is truly unique.** We capture and protect these Minerals in their most bioavailable Free Ion form **which is almost a mirror image of what exists within our cells.** This means rapid absorption and superior efficacy as it allows direct absorption with measured functional effect.

THIS FREE ION FORM CHANGES THE BOUNDARIES OF EFFICACY

Magnesium is meant to do all these things within our cells. The benefits of Magnesium to our Skin, Hair and Health are well documented and as diverse as they are immense. What is **NEW** is the Free Ion form, from an EU protected deep-sea source, extracted thru patented technology underpinned by clinical science and in synergy with **+78 Minerals & Trace Elements.**

Bioavailability: Rapid Cellular Absorption

"Oriel Hydrasphere Magnesium, Minerals and Trace Element Concentrate are mutually supportive in a synergistic manner of improved cellular kinetics, dynamics, homeostasis and functionality at molecular, cellular and physiological levels"

Dr Ronan P Murphy



- Transdermal, Sublingual & Oral
- Speed & Efficiency of Absorption
- Micro-vasculature in 23 mins (Transdermal)
- Balance & Ratio (Minerals & Trace Elements)
- Unbound Free Ion Form
- Blood platelets in less than 25 mins (Oral)
- Skin cell Repair & Regeneration
- Co-Factor synergies



Oriel Magnesium Minerals & Trace Elements – More than you think – With less that you thought.

We Need Magnesium



Skin Health
Energy Metabolism
Cells – Formation, Repair
& Regeneration
Cardiovascular Health
Inflammation Control
Neural Synapsis
Cell & Nerve Tissue
function

For More than You think



Epigenetics - Aging Well
Calcium Metabolization
Vitamin D & Bs Absorption
Collagen & Hyaluronic Acid
DNA & RNA - Messaging
Gut Microbiome Health
Skin Immune Function
Inflammaging

More than Magnesium



Deep Sea Source
Liquid unbound Free Ion
Magnesium, Minerals +78
Trace Elements
Perfect ratio & balance
Working together in synergy
Natural, pure unbound form.
Water hydration shell.
Complete Element Spectrum

600 enzymatic processes – 1000's of bio-chemical actions



THE SCIENCE IS POWERFUL, PROVEN, PUBLISHED

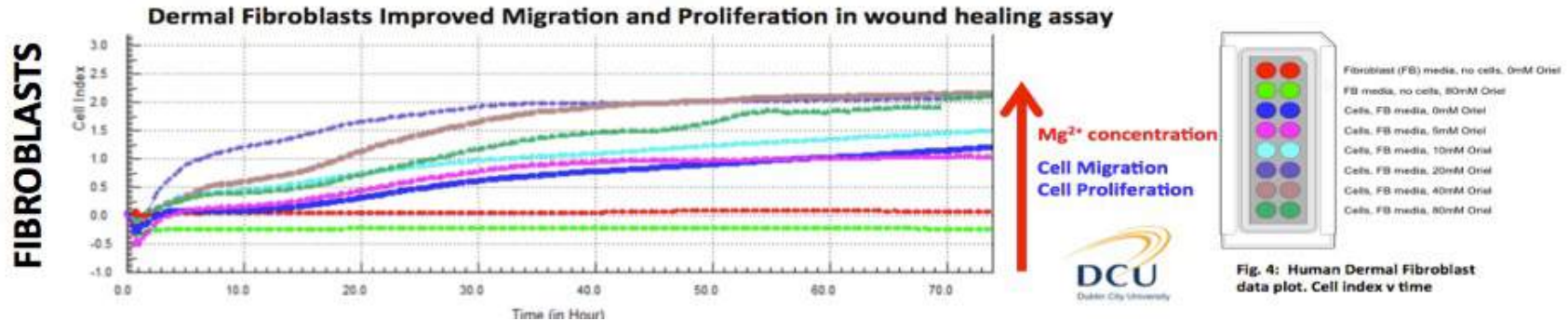
- Skin barrier function – Improved from Cellular Level
- Skin hydration, pH, TEWL – Improved
- Boosts Collagen and Hyaluronic Acid & Switches on
- Anti Aging – Thru Epigenetics – IGF-1 +76 fold in 60 mins
- Skin cell repair and regeneration – EPC's +88% in 28 days
- Anti Inflammatory (Pan Inflammatory Mediator) SETD6
- Regulation of Gene expression – Improved
- Improved skin health, tone, firmness
- Improved healing – Reduced scarring (Burn & Wound)
- Boosts efficacy & absorption of other nutrients and ingredients



Dynamic 3D living human skin and human dermal Fibroblasts, Keratinocytes and Endothelium cells. In-Vivo and In-Vitro.

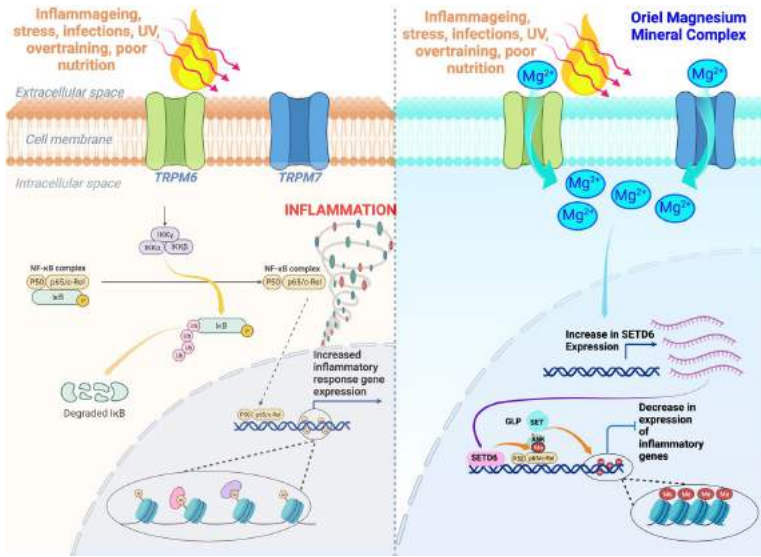
Studies on human Fibroblast, Keratinocytes and Endothelium cells on 3D Dynamic Human Skin Equivalent

- Improved skin tensesgrity (via cellular architecture and bio-mechanics) for skin firming and elasticity benefit.
- Improved cell adhesion and proliferation for improved healing, recovery and new healthy cells being produced to displace unhealthy ones.
- Improved skin tone and condition.
- Laser absorption studies in France – 23 minutes for Minerals to reach the Dermal Microvasculature with no agitation



Measured using xCELLigence DP Real-Time Cell Analyzer assessing cell motility and adhesion

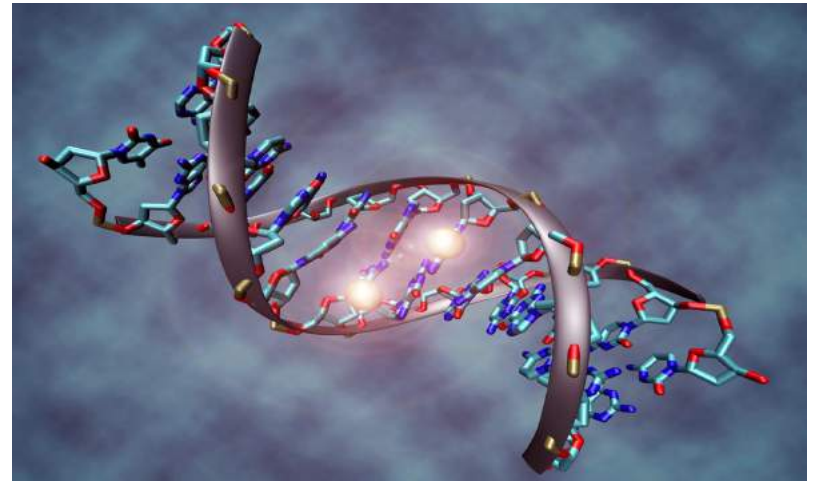
Inflammaging Reversal



Aging

Epigenetics – Gene Reprogramming

Leveraging the power of Epigenetic Regulation at molecular, cellular and physiological levels to elevate skin health. Solutions reinforce skins innate ability to repair and regenerate while stimulating collagen and HA production to promote healthy skin and restore skin vitality



FLIP THE INFLAMMATION SWITCH – SETD6

Turn the tables on long term Epigenetic changes induced by biological, environmental and lifestyle factors. Bolster the skins resilience by activating the restorative expression of Genes & Deactivating key Inflammatory pathways by flipping the “Off” switch on detrimental Epigenetic changes.

Key Role in Sunburn Induced Early onset Skin Aging

Pan Inflammatory Mediator A Master Switch

Oriel upregulates the master 'off switch' for acute and chronic inflammation - SETD6. This switches off the main inflammatory pathways in skin via NF-kB. Downregulates HMBG1 and MIF1, which are principal cytokines (chemical messengers) for inflammation. Oriel turns down inflammation at source and plays a key role in anti-inflammaging (chronic, low-grade inflammation that is associated with age-related changes in stem cells)

Other Anti Inflammatory Benefits

- 90% reduction in release of inflammatory micro-vesicles.
- PTEN – Reduced 100 fold / WNT5A – Reduced 16 fold
- Interleukin IL8 – Reduced 50 fold / 6, 5 & 4 reduced
- Inflammatory response to Blood Platelets
- Endothelium - profound reduction in inflammation
- Benefit on coagulation homeostasis & Anti-hypertrophic effects

Controlled Inflammatory response is a key mediating factor in “Inflammaging” (negative impacts on Ageing via uncontrolled and unregulated inflammation)

Epigenetic Regulator: IGF-1 The Longevity Gene

DCU have proven the impact and effect of Oriel as an Epigenetic Regulator at multiple levels.

Oriel witnessed a 76-Fold increase in IGF-1 (Insulin like Growth Factor) , on skin with Oriel applied via a Gel. With improved expression under Inflammatory Stress of: SETD6, DOT1L & PAK1

Growth factors are critical in regulating biological processes including cell growth, proliferation and differentiation. IGF-1 plays a key role in skin health and healing by stimulating fibroblast mitogenesis, helping to maintain epidermal homeostasis, and inducing keratinocytes to proliferate, differentiate, migrate, and survive.

IGF-1 is a Protein Coding Gene, one of the key mediators and regulators in growth, development, lifespan and Epigenetics and plays a key role in the determination of Chronological Age V Biological Age

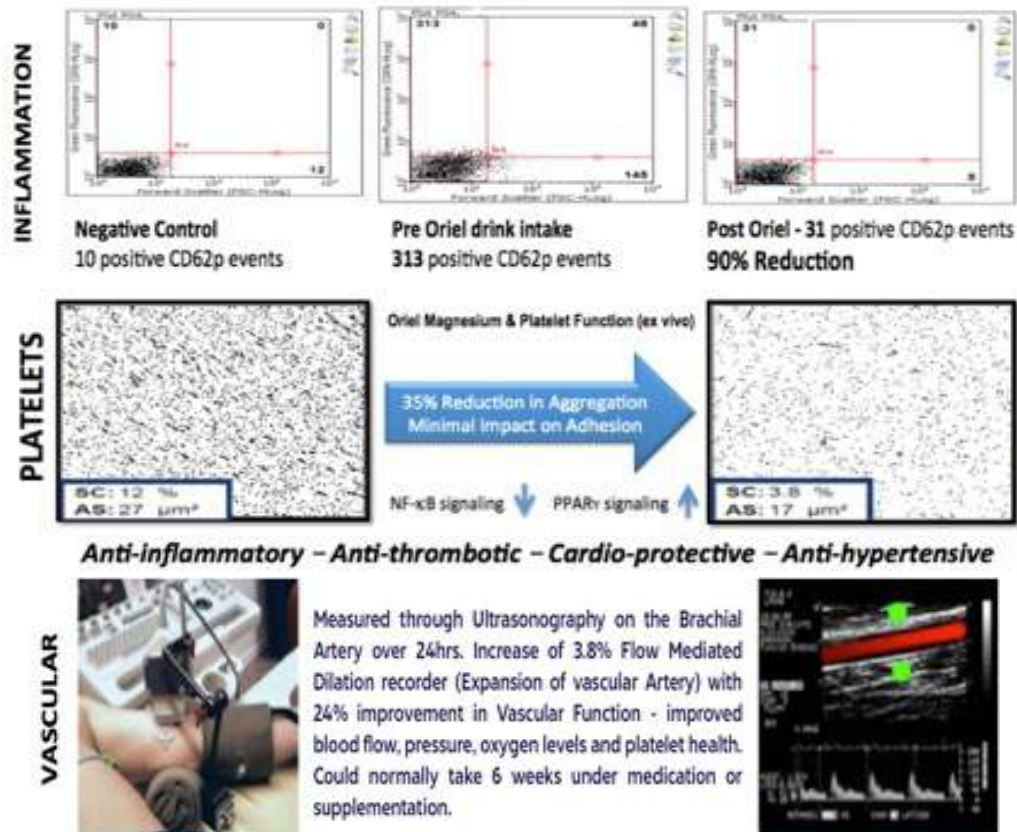
IMPROVING THE HEALTH OF THE DERMAL MICROVASCULAR (Platelets to Cardiovascular to Inflammatory Regulation)

Anti-inflammatory at blood platelet level. 90% reduction in inflammatory release of microvesicles in just 60 minutes. Additional studies demonstrate Pan Inflammatory Mediator benefit

Platelet Function & Platelet health Improved. Systemic health begins with Blood Platelet health. Platelet function plays pivotal role in inflammatory response & immune function. (+30% in 60 mins)

Regenerative effect to Cardiovascular function. Improved function and vasodilation impacts oxygen levels, reduced ROS, improved nutrient absorption to cells and is cardio protective.

"We have witnessed in 24 hrs, systemic improvements to the cardiovascular system that would take up to six weeks under normal supplementation" Dr. Ronan P. Murphy PhD, FCATH



Improved cardiovascular function 23% in 24 hrs
Improved blood vessel vasodilation 3.8% in 24 hrs

Molecular Regulation thru Gene Expression

Gene	Expression	Increase
COL4A3	↑	20 Fold
PLG	↑	6 Fold
IFNG	↑	35 Fold
MMP9	↑	18 Fold
TNF	↑	5 Fold
Gene	Expression	Decrease
WNT5A	↓	16 Fold
IL4	↓	4 Fold

Small indicative selection of Analysis from over 500 Genes relative to skin & systemic health

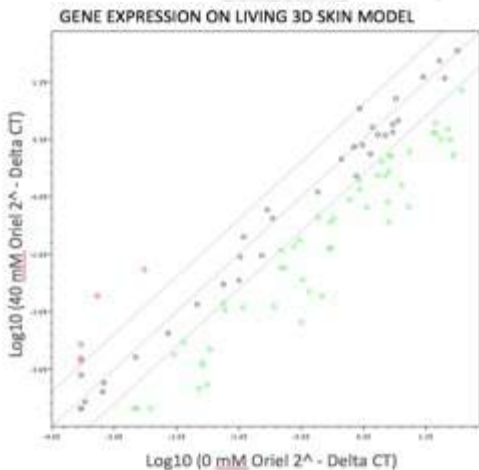
Upregulated Gene Expression:

- COL4A3 – 20-Fold – Production of Collagen Protein
- COL1A3 – 10-Fold – Provides instruction for making Type 1 Collagen
- COL3A3 – 6-Fold – Provides instruction for making Type 3 Collagen
- COL1A1, COL3A1, COL4A1, COL5A1, COL5A3 (ECM Producing Genes)
- IGF-1 – 76-Fold – The Longevity Gene. Proves Epigenetic Regulation Effect
- FLG – Filaggrin – Vital protein that improves skin barrier and fuels skin cells to mature into the tough outer layer CCE
- PLG – 6-Fold – Plasminogen – Key component for platelet rich plasma
- IFNG – 35-Fold – Improved skin immune function by increasing Interferon-γ (IFNγ) Improves ability of skin microenvironment to fight infection & Maintain pigmentation.
- MMP9 – 18-Fold – Improves Tissue Formation Remodels Collagen I, III, IV & V, Aggrecan, Elastin & Fibrillin. Reduces Scarring. Promotes cell migration and reepithelialization.
- TNF – 5-Fold – Improves skin health post medication. inflammatory conditions

Downregulated Gene Expression

- PTEN – 100-fold – Pivotal role in inhibiting skin and wound repair
- WNT5A – 16-Fold – Inflammation and Immune Function agonist. Over expression is pathological. Implicated in many skin conditions
- IL4 - 4-Fold – Inflammation agonist
- IL8 – 50-fold – Inflammation agonist to skin conditions

GENE EXPRESSION - MOLECULAR REGULATION



Hyaluronic Acid & Magnesium

- Magnesium is essential for HA synthesis
(Intl Journal of Research in Chemistry & Environment)
- Mg Improves HA efficacy & performance
- Improved Hydration at all dermis layers
- Improved Skin Barrier integrity
- Improved Skin Conditioning
- Compelling Synergistic Effect witnessed
- Switching on Natural HA production

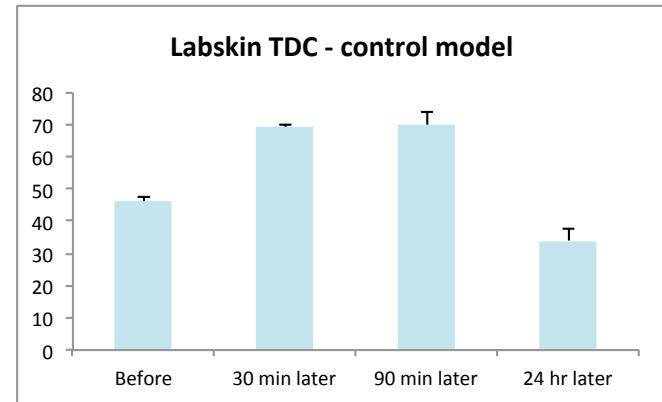
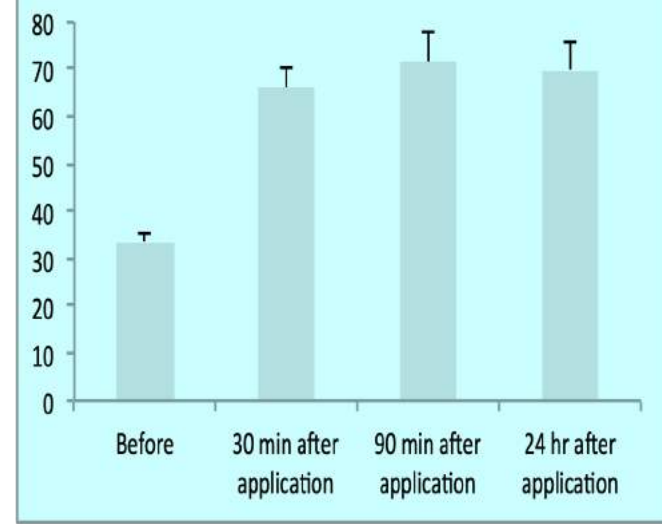
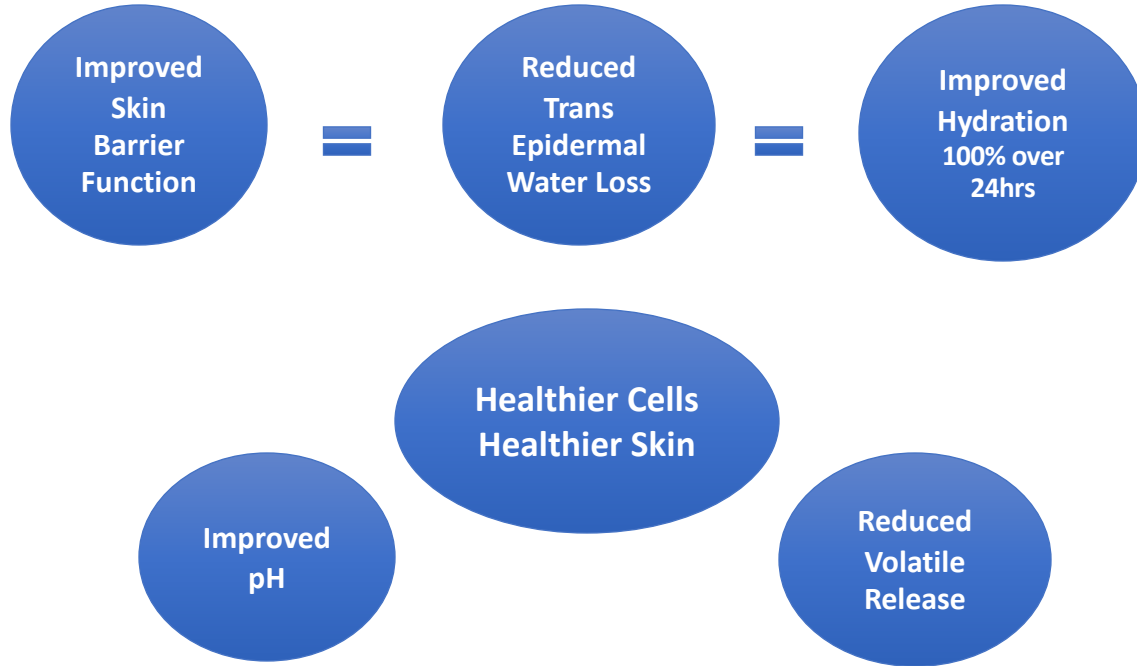
Collagen Biomarkers & Magnesium

- COL4A3 – Upregulated by 20 fold
(Production of Collagen Protein)
- COL1A3 – Upregulated by 10 fold
(instruction for making Type 1 Collagen)
- CoL3A3 – 6 Fold
(instruction for making Type 3 Collagen)
- COL1A1, COL3A1, COL4A1, COL5A1, COL5A3
(ECM Producing Genes- all up-regulated)
- Co-factor relationship to Mg

Science proven on Dynamic 3D living human skin and on human dermal Fibroblasts, Keratinocytes and Endothelium cells.

Skin Barrier, Hydration and pH Studies on 3D Living Skin Model.

The most advanced Living Human Skin Equivalent Model demonstrated prolonged beneficial effect out to 24 hrs.





HEALTHY HAIR

NEEDS

HAIR NUTRITION & SCALP NUTRITION

Hydrosphere, Deep Sea Magnesium
Mineral Extract. Nutrition for Hair,
Beard, Lashes, Scalp and Skin



Benefits To Hair 1

Hair is 90% Keratin (Protein) – **Magnesium is Necessary for Protein Synthesis & Hair Growth**

- Improved protein synthesis means healthier more vibrant hair
- Protein synthesis helps create Melanin which helps prevent greying.

Calcium Build Up on the Scalp and around Follicle Root. (**Magnesium is Calcium Co-Factor**)

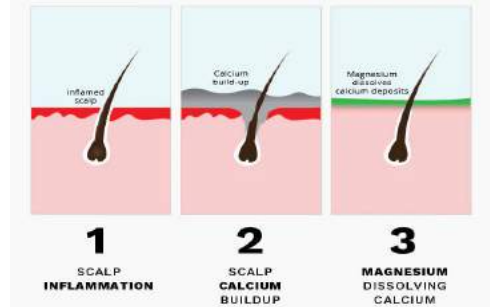
- Calcium build up on the scalp is a potential cause of thinning hair.
- **Magnesium helps metabolize Calcium** build up around Follicle Root

Proven to **Improve Blood Flow** (Endothelial Vasodilation)

- Improved blood flow and nutrients to follicle root
- Oxygenated blood with less ROS and improved barrier function

Magnesium - 600 metabolic functions and enzymatic responses

- Magnesium keeps hormones such as testosterone and Dihydrotestosterone (DHT) in balance. DHT is a hormone directly related to Hair Thinning and Hair Loss. Magnesium inhibits 5-alpha reductase, the enzyme responsible for converting testosterone to DHT thus preventing hair thinning and loss and promoting hair growth.
- Magnesium plays a key role in enzymes that manage DNA repair and replication (Skin & follicle)



Benefits to Hair 2

- Complete spectrum: Magnesium, Minerals (Calcium, Sulphur, Potassium, Sodium) 78 Trace Elements including Copper, Zinc, Phosphorous, Selenium, Nickel, Silica in ratio and balance to promote healthier, stronger hair.
- Magnesium promotes absorption and metabolization of Vitamin B6, B12, B Complex, B7 Biotin, Calcium, Iron, Vitamin D.
- Up-Regulates production of Collagen genes & Collagen protein biomarkers.
- Dual absorption via follicle root & directly through dermal layers – Only one
- Proven benefits to blood platelet health and blood circulation – Critical to the the dual approach of Oriel via the Dermal and Follicle pathways.
- Anti-inflammatory (Pan inflammatory mediator) for improved scalp and skin recovery and health



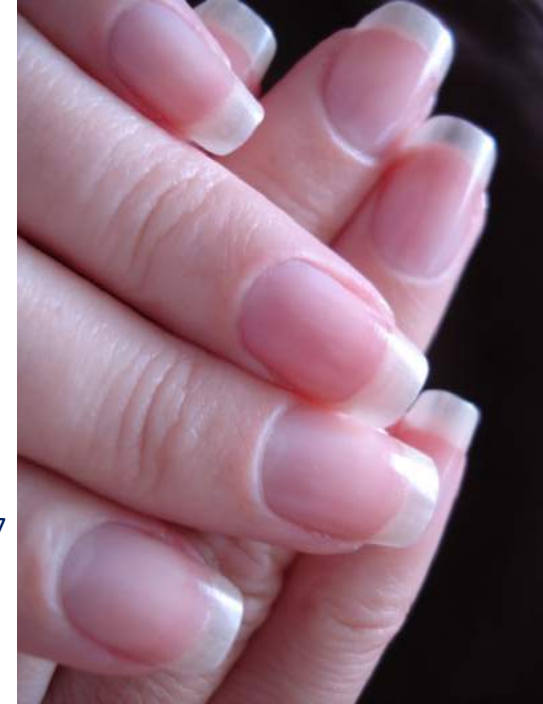
Nail Health, Strength, Rejuvenation

90% of Nails is Keratin (Protein) – **Magnesium is Critical for Protein Synthesis**

- Improved protein synthesis means healthier stronger nails
- Magnesium prevents vertical ridges in nails
- Plays a key role in the formation of new nails.
- Metabolizes calcium to help prevent dry brittle nails

- Proven to **Improve Blood Flow** (Endothelial Vasodilation)
- Improved blood flow to the capillaries beneath the nail bed
- More oxygenated blood with more nutrients and less ROS
- Calcium metabolism - Less calcific effect (stronger more resilient nails)

- Promotes absorption and metabolization of Vit B6, B12, B Complex, B7
Biotin, Calcium, Iron, Vit D.
- Up-Regulates production of Collagen genes and protein biomarkers.
- Promotes cell and nail regeneration post removal of fake nails



Deep Sea Mineral Water Wipes – Mineral Water Wipes

- It's doing more than water – But from a regulatory perspective – It's still just water
- Totally safe, gentle on skin and suitable for use on sensitive baby's skin
- Anti-inflammatory effect on allergy rash, diaper rash and skin irritations.
- Excellent results when used on Cradle Cap in wipe or gel.
- Significant body of science to support expectations and results.
- Simply infuse your purified water source with Deep Sea Minerals



The focus of the new generation of wipes is clean label, organic source, sustainable resource, no chemicals, less allergic reactions, no smells, no residue – COST EFFECTIVE at 1000-2000/10riel delivers this and more with proven science and functional beneficial effects to skin health.

Create perfect Mineral water as your “base water” by activating your purified or distilled water.

Mineral water makes better skincare and cosmetic products. Deep sea magnesium minerals and trace elements will transform your base water to perfect Mineral water.

The worlds greatest brands use Mineral Water as the base water for their products. (L'Oréal, La Roche Posay, Vichy, Yves Saint Laurent, Biotherm, Lancôme.....) But not all brands have access to a mineral water source and must purify their water which changes the water and how it interacts with ingredients.

Mineral water is softer and works with your ingredients in a more efficacious manner.

“The magnesium, calcium and potassium in many mineral water products have positively charged molecules that exchange with enzymes in the skin to help reduce inflammation and sensitivity,” Vichy

“Mineral water products return these moisture-binding minerals to the skin, slowing down the natural evaporation process and helping to hold water in the deeper layers of the epidermis” La Roche Posay.

Water Transformation – Water Activation – Perfect Mineral Water



Marketing Potential is Powerful and Versatile

- Previously, all other forms of Magnesium, Minerals and Trace Elements were mined from Earth sources and powder based bound forms.
- Deep Sea Water is a new source, which is more Natural, Bioavailable, Pure, Absorbable, Functional and Efficacious for Skin and Hair health
- Powerful Mineral nutrients working in harmony for our skin
- 100% Natural, Sustainable, Organic, Protected EU Source
- Skin, Hair, Nutraceutical beauty
- Synergy of Nature, Technology and Science
- Millennia of provenance & history from a very special part of the world
- Quality: Production process to Food grade, GFSI & FSCC ISO 20002/1

Blue Beauty

*Innovative
Technology*

*Powerful
New Source.*

*Minerals from
Deep Sea*

Create product Families



Skincare



Haircare



Oralcare

Nutraceutical

Personal care



Cosmetics



Formulation & Cost

- A wonderful product to formulate with as you use less than 0.5%.
- Water based clear liquid.
- No odour, No colour, No masking issues.
- Self preserving, No temperature, solubility or suspension issues.
- Natural, Sustainable, Organic.
- INCI: Sea Water Extract (No CAS, EINECS, AISIN Required due to Natural status)
- **Blue Beauty - Pure & Clean.**

Dosage: Skincare & Haircare products @ 0.33% - 0.5%

(Equates to approx. €0.10 cent per 50ml of client product)

Any liquid applications in:

- Skincare, Haircare, Cosmetics
- Wipes – Facial, Baby, Body
- Oral care, Wound or Burn care
- Nutraceuticals



Who we Are

- Established since 2012
- Supplying leading brands (EU, UK, USA)
- Skincare, Nutrition, Healthcare
- Science Driven Co. (7 Years, Published)
- Globally Patented Technology
- Magnesium & Minerals Innovation



The point of **Tectonic** crash of continents of **Americas & Eurasia** 400 Million Years Ago and the **formation** of the Island of Ireland

Where we are From

- Ireland, Co. Louth
- Natural, Sustainable, Organic , ISO
- EU Protected Deep Sea Source of Minerals (PDO, Only Co in EU)
- Millenia of History and Provenance
- Pristine & Protected Deep Sea Source



*Blue Beauty
Blue Source*



If its liquid
formulations, we've
got the science