who helps create future trends?

we do.

vincience™ biofunctionals
for skin and hair care

synopsis 2021

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health and wellness, along with natural and organic foods and products, are just a few of the growing consumer trends changing the face of today's personal care market.

Current market trends, including simplification and the need for multiple benefits in a single product, present new challenges for Ashland's team of solvers. We look at the formulation architecture to create more alluring textures in skin care products, incorporate UV filters into hair care products, face creams, cosmetics and moisturizers, and harness the power of nature to find new biofunctional ingredients that can help fight the visible signs of aging and the negative effects that exposure to airborne pollutants can have on hair and skin.

The Vincience™ biofunctional ingredient portfolio has been designed with a profound understanding of skin biology and includes botanical ingredients, synthetic peptides and ingredients based on biotechnologies or biosynthesis. At Ashland's laboratories in Sophia Antipolis, France, a dedicated team of research scientists are continuously investigating skin biology, evaluating ingredient performance, and developing the next generations of biofunctional ingredients. By employing *in vitro, ex vivo,* and other clinical evaluation methods, we can quickly and effectively substantiate the claims and benefits of this industry-leading portfolio.

The world leader in skin care and hair care technologies expands its portfolio based on advanced science.

vincience™ new launches

new

biofunctional launched the past 4 years

vincience™ dermocare

biofunctionals for skin barrier, moisturization, acne-prone skin, sensitive skin, skin repair and microbiome

vincience™ essentials

simply essential biofunctionals for the skin needs

vincience™ skin biomimicry

peptides, proteins, lipid-identical mimicking skin naturally occurring components

vincience™ breakthrough

biofunctionals with a technology differentiation or innovative biological targets

vincience™ biotHAIRapy™ & scalp

biotHAIRapy line and biofunctionals for scalp care

vincience™ body care

biofunctionals for body contour, body moisture

vincience™ natural

biofunctionals with a natural profile, sustainable sourcing profile and/or COSMOS* validation

contents

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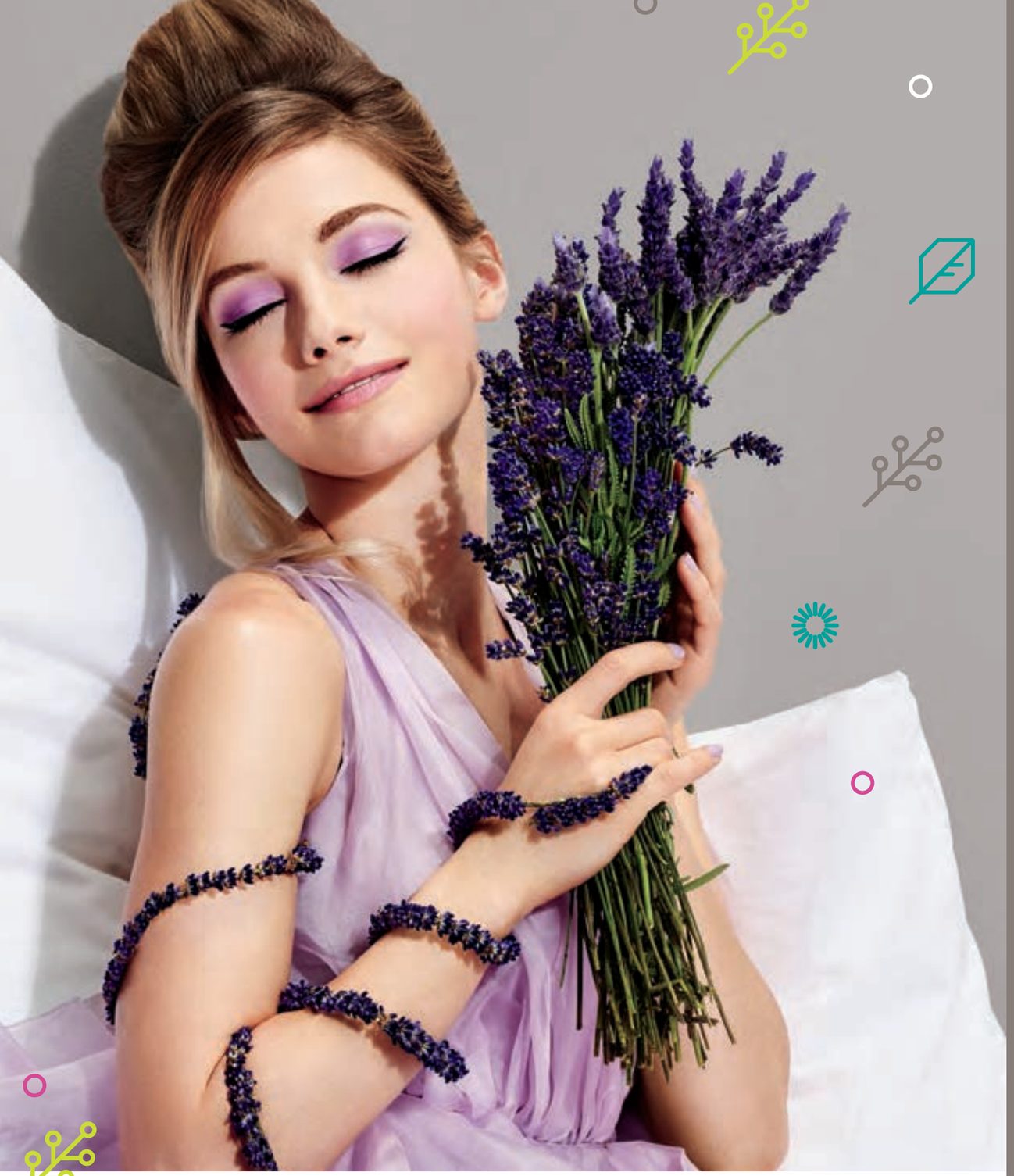
cosmetic applications

trade name	anti-aging	anti-stress	anti-wrinkle	antioxidant	anti-glycation	hair care	lip	moisturizing	nourishing	acne	skin energizer	skin brightener	skin protection	skin renewal	skin soother	skin tensor	body contour	skin tone
achromaxyl™ isr	•											•						
acnacidol™ bg										•								
actopontine™	•												•	•			•	
actopontine™ yst	•												•	•			•	
aqua-osmoline™								•					•					
aquarize™ is	•							•										
atpeptide™ is											•						•	
blumilight™	•	•	•	•									•					
caspaline 14™	•							•					•					
cb2-skin™	•	•	•		•							•			•	•	•	
chondricare™ is	•	•									•		•					
chronogen™	•	•											•					
chronogen™ yst	•	•											•					
collaxyl™ is	•		•											•				
cotton bloom™ 5s								•	•				•					
d'orientine™ s	•		•	•														
dermostatyl is™	•		•									•		•				
dynachondrine™ isr	•	•		•							•		•					
ederline™ s	•		•															
elixiance™	•	•	•	•	•					•			•					
gp4g sp™	•	•	•	•							•	•	•					
harmoniance™	•	•	•	•				•				•	•		•		•	
heliostatine isr™	•												•		•			•
infini'tea™	•	•	•	•									•	•	•			•
laminixyl is™	•																	
lipigenine™								•	•				•					

trade name	anti-aging	anti-stress	anti-wrinkle	antioxidant	anti-glycation	hair care	lip	moisturizing	nourishing	sebum	skin energizer	skin brightener	skin protection	skin renewal	skin soother	skin tensor	body contour	skin tone
marine hydrolyzed collagen a™	•		•	•														
neomatrix™	•		•				•											
nightessense™	•		•	•								•		•				
oleanoline™ is								•					•		•			
orsirtine™ isr	•												•					
oxygenated glycerol triesters d™						•									•			
peptide q10™	•		•	•							•							
peptide vinci™ 02 is	•						•							•				
phytocohesine™ psp	•							•					•	•				
phytoneomatrix™	•		•				•											
phytornx baobab™	•		•					•										
prolixir s20™	•			•														
quintescine™ is	•	•		•	•								•					
rosaliss™	•		•									•	•					
seastem™	•	•		•				•	•				•	•				
serenityl™	•	•						•	•		•		•		•			
signaline™ s	•										•							
suberlift™																•		
suprastim™	•	•	•	•				•			•	•	•					
survixyl is™	•												•	•				
telosense™	•		•										•					
ucpeptide™ v																	•	
vegetal ceramides bgg™								•										
vital et™	•	•											•		•			



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new **vincience™** new launches

biofunctionals launched
the past 4 years

blumilight™ biofunctional

premium cocoa peptides for blue light pollution and digital aging

INCI: Water (and) Butylene Glycol (and) Theobroma Cacao (Cocoa) Seed Extract

preservative system: no preservative

COSMOS* validated

recommended use level: 1% (clinically tested at 1%)

- decrease in Reactive Oxygen Species during blue light stress *(in vitro)*
- maintenance of opsin photoreceptors during blue light stress *(in vitro)*
- increase in collagen1, fibrillin-1 and syndecan-4 *(in vitro, ex vivo)*
- visible improvement of elastin fibers network *(ex vivo)*
- improvement of skin elasticity *(in vivo)*
- visible improvement in appearance of skin wrinkles *(in vivo)*

blumilight™ p biofunctional

premium cocoa peptides for blue light "pollution" and digital aging (powder format)

INCI: Theobroma Cacao (Cocoa) Seed Extract

preservative system: no preservative

COSMOS* validated

recommended use level: 0.015%

- decrease in Reactive Oxygen Species during blue light stress *(in vitro)*
- maintenance of opsin photoreceptors during blue light stress *(in vitro)*
- increase in collagen1, fibrillin-1 and syndecan-4 *(in vitro, ex vivo)*
- visible improvement of elastin fibers network *(ex vivo)*
- improvement of skin elasticity *(in vivo)*
- visible improvement in appearance of skin wrinkles *(in vivo)*

cb2-skin™ biofunctional

capturing the "boho chic" trend, cb2-skin biofunctional is a patchouli-derived cb2 activator associated with skin calming, soothing benefits and greater skin comfort when skin is exposed to stress

INCI (proposed): Octyldodecanol (and) Pogostemon Cablin Leaf Extract

preservative system: no preservative

COSMOS* validated

recommended use level: 0.3 -1% (clinically tested at 1%)

- derived from premium patchouli
- from farm-to-skin; sustainable sourcing in Colombia with full traceability
- provides calming, relaxing and age-defying skin benefits
- globally compliant, not based on controversial cannabis derivatives
- conveys a strong image of luxury and beauty

chronogen™ biofunctional

innovative anti-aging tetrapeptide, designed using advanced molecular biology and inspired by epigenetic science

INCI: Water (and) Butylene Glycol (and) Tetrapeptide-26

preservative system: phenoxyethanol, sodium benzoate

recommended use level: 1% (clinically tested at 1%)

- associated with a maintenance of expression of CLOCK, BMAL1 and PER1 *(in vitro, ex vivo)*
- associated with a decrease of induced sun burn cells
- *in vitro* results show repair of UV damage

chronogen™ yst biofunctional

one of the first biofunctional ingredients inspired by clock genes, chronogen™ yst biofunctional is designed to provide a cosmetic solution to the deleterious effects of social jetlag on the skin

INCI (proposed): Water (and) Glycerin (and) Hydrolyzed Yeast Protein

preservative system: sodium benzoate

COSMOS* validated

recommended use level: 1% (clinically tested at 1%)

- associated with a maintenance of expression of CLOCK, BMAL1 and PER1 *(in vitro)*
- associated with a decrease of induced sun burn cells *(ex vivo)*
- age-defying approach to help strengthen the skin's capabilities for protection and self-regeneration

elixiance™ biofunctional

natural and sustainable Peruvian *Schinus molle* extract with pollution-shielding, skin-purifying and age-perfecting benefits

INCI: Propanediol (and) Water (and) *Schinus molle* Extract

INCI: Propanediol (and) Water/Aqua (and) Bioflavonoids

preservative system: no preservative

COSMOS* validated

recommended use level: 1 to 1.5%

- antioxidant: *Schinus molle* leaf extract is known to have antioxidant properties
- a significant cell protection against air pollution PM2.5 and PM10 *(in vitro)*
- a strengthening of the skin barrier *(in vitro, ex vivo)*
- oil control and pore refining *(in vivo)*
- a fresher, younger-looking skin with less visible wrinkles *(in vivo)*

harmoniance™ biofunctional

extracted with Zeta Fraction™ Technology, a Sacred Lotus extract for total anti-age control, face and body

INCI: Nelumbo Nucifera (Lotus) Extract

preservative system: potassium sorbate, sodium benzoate, sodium metabisulfite

recommended use level: 0.5 to 1% (clinically tested at 0.5%)

skin aging and dermis:

- increased collagen I expression (+38% *in vitro*)
- inhibition of elastase activity (–25% *in vitro*)
- improved skin softness (+25% *in vivo*)
- reduction in appearance of wrinkles (–20% *in vivo*)

antioxidant properties:

- ORAC (Oxygen Radical Absorbance Capacity): 1 g. Lotus has antioxidant potency equal to 30.6 mg of (R)-Trolox methyl ether.
- DPPH (2,2-diphenyl-1-picrylhydrazyl) quenching: 1 g. Lotus quenches 25.8 mg DPPH.

skin hydration and barrier function:

- increased filaggrin expression (+65% *ex vivo*)
- increased hyalyronic acid expression (+48% *ex vivo*)
- increased aquaporin 3 (AQP3) expression (+22% *ex vivo*)
- increased barried function (+85% *ex vivo*)
- increased skin hydration (+14% *in vivo*)
- decreased TEWL (–8% *in vivo*)

skin tone:

- melanin control (-80% *ex vivo* human skin)
- anti-inflammatory activity on PGE2 (–50%)

body contour and cellulite skin:

- increased glycerol release (+73% *in vitro*)
- drainage and body contouring (–12 mm on thigh *in vivo*)

infini'tea™ biofunctional

ultra fresh tea serum for a peaceful and balanced skin inspired by neurocosmetics and yoga

INCI: Camellia Sinensis Leaf Extract

preservative system: no preservative

COSMOS* validated

- neurocosmetic solution to calm and sooth the skin
- cosmetic solution inspired by yoga, sun do and meditation
- first detox concept for monosodium glutamate excitotoxin
- helps limit the damage of UV
- helps decrease ex vivo the expression of melanin
- reduces the appearance of redness and fine lines; increases skin luminosity
- fresh, natural, pure and minimally processed tea serum from patented zeta fraction™ technology
- unique composition with superior level of L-theanine and antioxidants compared to green and black tea
- tea leaves sourced and manufactured utilizing low environmental impact practices

nightessense™ biofunctional

premium true lavender flower extract from Provence mountains for skin night-time reset

INCI: Butylene Glycol (and) Water (and) Lavandula Angustifolia (Lavender) Flower Extract

preservative system: preservative free

COSMOS* validation (pending)

recommended use level: 0.5% to 1% (clinically tested at 1%)

- for the first time, a biofunctional designed to target skin needs at night
- optimize skin's nighttime processes, the noctology™, the biology of the skin at night associated with night repair, cleanse and renew
- helps skin repair and clean damages overnight
  - – limit day light-induced oxidation
  - – repair dark DNA damage (dark sun effect)
- boost essential nocturnal molecules: timezyme and melatonin and nocturnin
- overnight skin reset evaluation on Caucasian and Asian skin
- visible effect night worker's skin
- skin looks rested, renewed, illuminated with less dark circles after 28 days of application of a cream containing nightessence™ biofunctional at 1%

peptide q10™ biofunctional

indoor pollution: anti-aging peptide boosting skin's ubiquitous CoQ10 for antioxidant defenses

INCI: Water (and) Propanediol (and) Pentapeptide-34 Trifluoroacetate

preservative system: sodium benzoate

recommended use level: 0.5 to 1% (clinically tested at 0.5% and 1%)

- associated with endogenous synthesis of CoQ10 and non-mitochondrial CoQ10 through UBIAD1 pathway (*in vitro*)
- with indoor pollution (model using cumene volatile organic compound): limit lipid peroxidation, ROS production and maintain cell membrane integrity (*in vitro*)
- decreases protein damage by reactive nitrogen species (*in vitro*)
- decreases sun damage (UVB, UVA, *in vitro*)
- limits appearance of skin aging (wrinkles and skin smoothness, *in vivo*)

phytoRNx baobab™ biofunctional

baobab seed extract rich in plant small RNAs and associated with improved epigenetic homeostasis in aging skin

INCI: Water (and) Glycerin (and) Hydrolyzed Adansonia Digitata Extract

preservative system: phenoxyethanol

recommended use level: 1 to 3% (clinically tested at 1%)

PhytoRNx Baobab is associated with age defying attributes and improved skin homeostasis:

- increased collagen I and collagen III expression *(ex vivo)*
- improved expression of Drosha and Dicer in senescent cells *(in vitro)*
- limited increase in ß-galactosidase senescence marker activity following Dicer silencing *(in vitro)*
- significant reduction of the appearance of wrinkles on volunteers *(in vivo)*

PhytoRNx Baobab is associated with long-lasting skin moisturization:

- increased expression of hyaluronic acid *(ex vivo)*
- increased expression of hyaluronan synthases (HAS2) *(in vitro)*
- increased skin hydration (skin capacitance) 24 hours after application *(in vivo)*

procataline™ g2 biofunctional

a botanical extract to help shield hair and scalp from urban stress

INCI (proposed): Water (and) Glycerin (and) Pisum Sativum (Pea) Extract (and) Salvia Hispanica Seed Extract

preservative system: sodium benzoate

COSMOS* validated

recommended use level: 1% (clinically tested at 1%)

- extracted from pea (Pisum sativum) and chia (Salvia hispanica) seeds
- rich in peptides, amino acids, polysaccharides, polyphenols and minerals
- associated with hair detox, scalp purifying and soothing properties

seastem™ biofunctional

marine extract from giant kelp algae with Zeta Fraction™ Technology to combat the skin effects of pollution (diesel ultrafine particles) on epidermal stem cells and preserve the skin's self-regenerating and protecting properties.

INCI: Macrocystis Pyrifera Extract

preservative system: sodium benzoate, potassium sorbate

COSMOS* validated

recommended use level: 0.5 to 1% (clinically tested at 1%)

sustainable sourcing: eco-harvested giant kelp from the wild Pacific coast of California

sustainable technology: proprietary Zeta Fraction™ Technology

age-defying skin benefits: protection and self-regeneration

helps maintain epidermal stemness potential under diesel UFP pollution stress:

- **keratin 15:** anchoring stem cells to the niche *(ex vivo)*
- **SOX9:** maintaining stemness potential *(in vitro)*
- inspired by research in regenerative medicine and the amphibian, the axolotl; model for unlimited regeneration and scar-free healing
- associated with an increase in skin's capital to self-repair and protection of microbiome from sun damage
- **P63:** maintaining stem cells in place *(in vitro)*
- mitigates free radicals induced by nanoparticles *(in vitro)*

maintains skin regeneration potential and vitality under pollution stress:

- helps recovery from artificial wound *(in vitro)*
- helps skin clear away 50% more nanoparticles *(ex vivo)*
- improves by 40% epidermal thickness under UFP stress *(ex vivo)*
- clinical study: improved skin elasticity *(in vivo)*

protects skin barrier function as to nanoparticle pollutants and improves skin hydration:

- maintains loricrin levels under UFP stress, RHE
- improves NMF pathway at 1% *(ex vivo)*
- increases hyaluronic acid synthesis by 42% *(ex vivo)*
- clinical study: Improves skin hydration by 56% *(in vivo)*

rosaliss™ biofunctional

haute couture for your skin – rose of "100 petals" from Provence for a perfect skin

INCI: Water (and) Butylene Glycol (and) Rosa Centifolia Extract

preservative system: no preservative

recommended use level: 1%

- a 100% natural extract of Rosa centifolia flower sourced locally in Provence (south of France)
- uses Ashland's proprietary and patented Plant Small RNA Technology (PSRTM), a novel green chemistry for superior efficacy.
- inspired by scientific research in regenerative medicine to help skin achieve a flawless self-repair.

Rosaliss is associated with skin perfecting benefits for age-marked and acne-damaged skin:

- helps skin increase its capital to self-repair (in vitro, ex vivo)
- preserve microbiome from sun damage with a prebiotic and postbiotic effect (in vitro)
- skin looks brighter & evened: skin texture appears smoother (clinical study)
- skin is more hydrated and looks firmer (clinical study)
- skin looks repaired: imperfections such as blemishes appear less apparent (clinical study)

serenityl™ biofunctional

condurango extract for skin detoxination, oxygenation and wellness

INCI: Marsdenia Cundurango Bark Extract (and) Caprylic/Capric Triglycerides

preservative system: no preservative

COSMOS* validated

recommended use level: 1% (clinically tested at 1%)

skin detoxination:

- increased TAS2R38 bitter taste receptor *(+25% ex vivo)* and chemerin antimicrobial agent *(+25% ex vivo)*, both associated with skin detoxination from certain environmental toxins
- increased autophagy process (+28% LC3 and +16% LAMP2) associated with the elimination of internal toxins
- increased skin barrier function (–10% TEWL)

skin oxygenation:

- increased COX IV involved in cell oxygenation *(+36% ex vivo)*
- improved skin rosiness *(+3% in vivo)*

skin wellness:

- oxytocin-like benefit: reduced IL-6Rß induced by stress, *(–14%, ex vivo)*
- reduced skin discomfort after stinging text *(–21% in vivo)*

healthier look and feel-looking:

- less visible fine lines *(–36% in vivo)*
- improved skin comfort (+80% of the volunteers)

suprastim™ biofunctional

Amazonian superfruit extract that mitigates the visible signs of skin fatigue, imparting a healthy glow

INCI: Water (and) Propanediol (and) Myrciaria Dubia Fruit Extract

preservative system: preservative free

COSMOS* validated

recommended use level: 1% (clinically tested at 1%)

helps maintain cellular energy flows in 3D models of skin fatigue:

- helps limit the drop in PFK2 (key enzyme for glycolysis), which can be induced by skin fatigue
- helps limit the drop in energy (ATP) induced by skin fatigue
- associated with better energy storage (creatine kinase)
- boosts the synthesis of collagen, which is associated with skin firmness

helps reduce the visible signs of stress:

- helps decrease the 11ß-HSD1 enzyme associated with lower cortisol levels

helps combat the visible signs of skin fatigue (*in vivo*):

- increased luminosity in the area below the eyes

vital et™ biofunctional

multifunctional vitamin E derivative for skin multilevel rescue against various stresses

INCI: Disodium Lauriminodipropionate Tocopheryl Phosphates

preservative system: phenoxyethanol, dehydroacetic acid, benzoic acid

recommended use level: 1% to 7.5% (clinically tested at 1.25%, 2.5%, 5% and 7.5%)

sun defenses

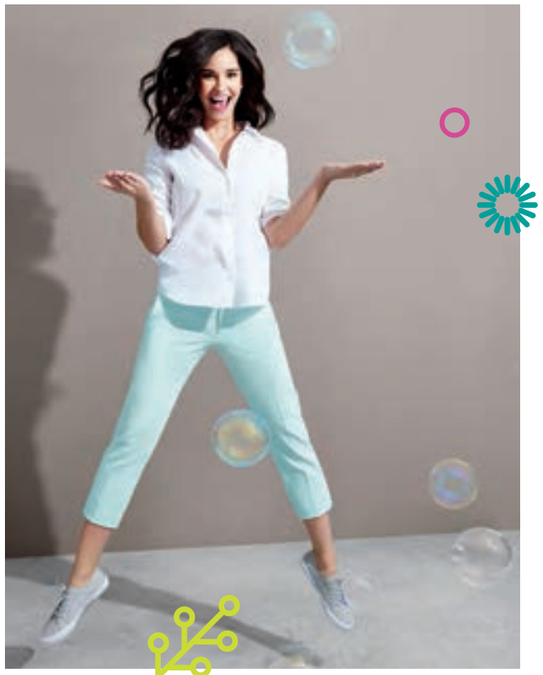
- prepares skin for sun exposure: visibly reduces UV-induced redness with a pre-treatment (clinical)
- sunburn rescue and after-sun recovery
- photoaging: decreases sunburn cell formation

age-defying rescue

- inflammaging: helps skin fight low chronic inflammation induced by chronic UV stress leading to premature aging in a 3D model
- senescence: helps maintain collagen production in a senescent environment ex vivo
- DNA damage: helps limit cyclobutane pyrimidine dimer (CPD) formation under UV stress

soothing

- acne-related stress:
  – visible decrease in spot redness and shape in 6 days
  – helps decrease acne-related inflammation markers
- having and after-shave:
  – visibly helps skin recover after shaving
  – visibly decreases skin discomfort (dryness, redness, burning, itching) after 4 weeks of use



new

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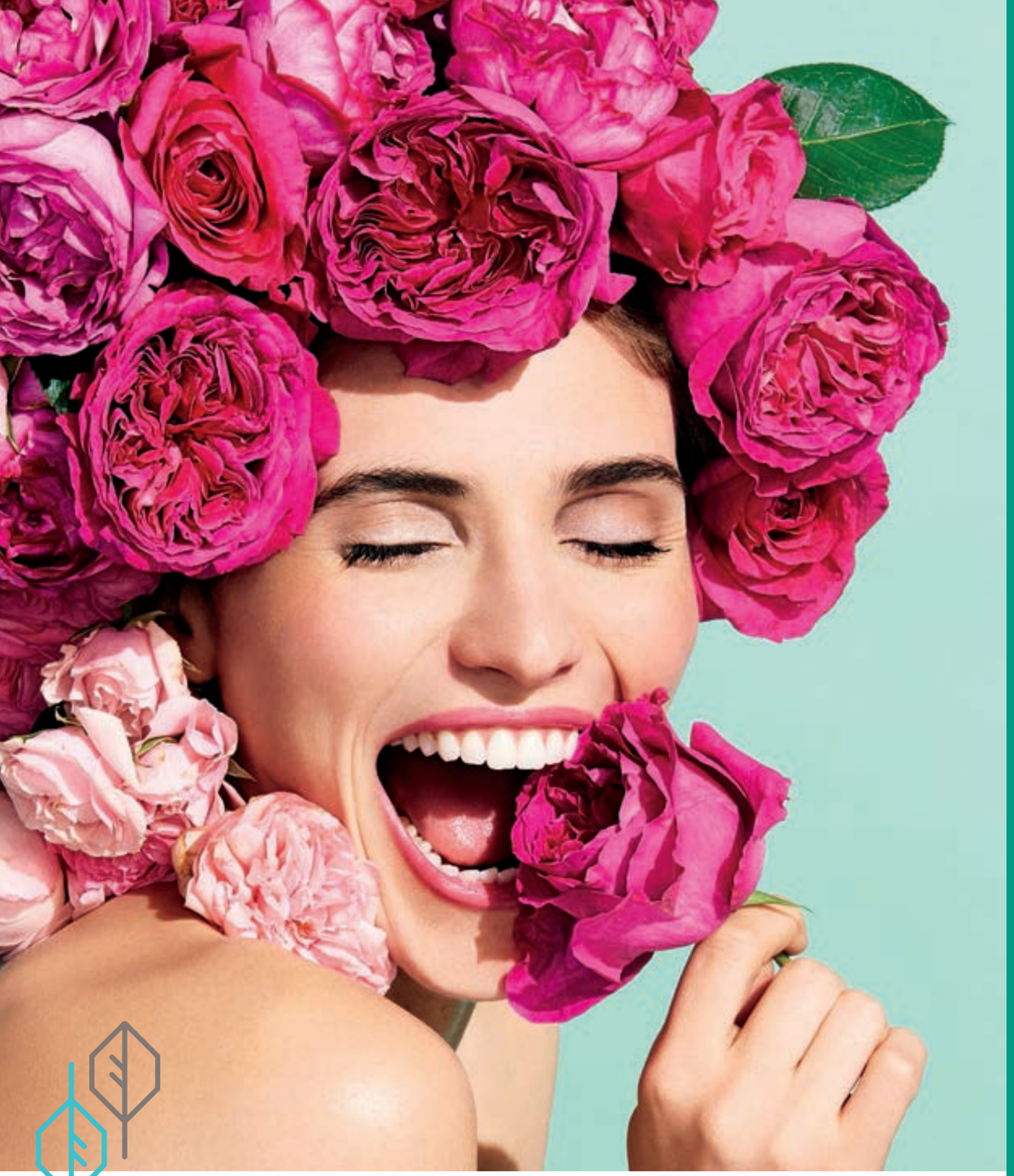

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vincience™ dermocare

biofunctionals for skin barrier, moisturization, acne-prone skin, sensitive skin, skin repair and microbiome

acnacidol™ **bg** biofunctional

clinically tested Royal Jelly mimetic
that helps balance sebum

INCI: Butylene Glycol (and) 10-Hydroxydecanoic Acid (and) Sebacic Acid (and) 1,10-Decanediol

preservative system: no preservative

recommended use level: 1 to 5% (clinically tested at 3%)

- decreases sebum in 1 hour

actopontine™ biofunctional

bioinspired by nature to optimize skin matrix architecture

INCI: Water (and) Butylene Glycol (and) sh-Hexapeptide-2

preservative system: sodium benzoate

recommended use level: 1% (clinically tested at 1%)

- associated with an *in vitro* increase in proteins critical for building and remodeling the Extracellular Matrix: dermatopontin, collagen I, collagen III, laminin-V, fibronectin and alpha-3 integrin
- shown *in vitro* to enhance proteins involved in cell shape and integrity: paxillin for fibroblasts' shape, and moesin, which is known as a marker of cell longevity and integrity
- for potential enhancement of skin elasticity and density: tropo-elastin and elastin-associated proteins involved in elastin fiber assembly, skin density and fiber orientation that are known to contribute to a youthful appearance

actopontine yst™ biofunctional

bioinspired by nature to optimize skin matrix architecture

INCI: Water (and) Glycerin (and) Hydrolyzed Yeast Protein

preservative system: sodium benzoate

COSMOS* validated

recommended use level: 1%

- associated with results *in vitro/ex vivo* hyaluronic acid expression *(ex vivo)*
- linked with water filling and renewal effects
- targets water channeling control and water sealing
- improved hydration contributes to preserve cell shape and cohesion during stress
- maintains skin's natural expression of proteins linked with epidermal differentiation and *stratum corneum* plasticity
- increases skin hydration and perception of skin glow *(in vivo)*

aqua-osmoline™ biofunctional

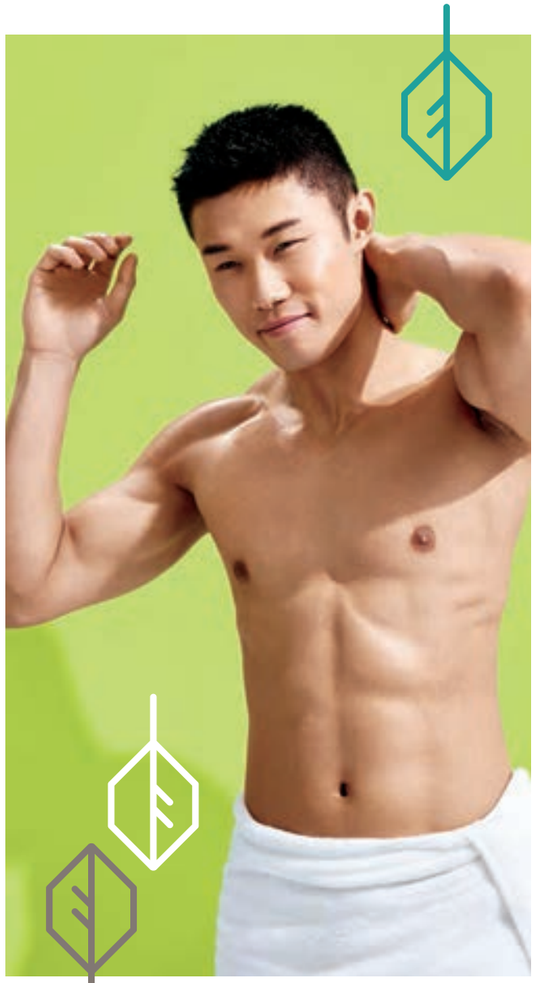
targets water control for improved
hydration and skin glow

INCI: Water (and) Glycerin (and) Ceratonia Siliqua (Carob) Seed Extract

preservative system: phenoxyethanol, sodium benzoate

recommended use level: 1% (clinically tested at 1%)

- associated with results *in vitro/ex vivo* hyaluronic acid expression *(ex vivo)*
- linked with water filling and renewal effects
- targeted water channeling control and water sealing
- improved hydration contributes to preserve cell shape and cohesion during stress
- maintains skin's natural expression of proteins linked with epidermal differentiation and *stratum corneum* plasticity
- increased skin hydration and perception of skin glow *(in vivo)*



caspaline 14™ biofunctional

synthetic peptide to help enhance skin's natural UV defenses and help fight the visible signs of aging

INCI: Water (and) Propanediol (and) Hexapeptide-42

preservative system: sodium benzoate

recommended use level: 0.5 to 1% (clinically tested at 0.5%)

- helps maintain expression of caspase-14 *(in vitro, ex vivo)*
- helps maintain expression of filaggrin (precursor of NMF) *(ex vivo)*
- helps limit skin damage from UV *(ex vivo, in vivo)*

cb2-skin™ biofunctional

capturing the "boho chic" trend, cb2-skin biofunctional is a patchouli-derived cb2 activator associated with skin calming, soothing benefits and greater skin comfort when skin is exposed to stress

INCI (proposed): Octyldodecanol (and) Pogostemon Cablin Leaf Extract

preservative system: no preservative

COSMOS* validated

recommended use level: 0.3 -1% (clinically tested at 1%)

- derived from premium patchouli
- from farm-to-skin; sustainable sourcing in Colombia with full traceability
- provides calming, relaxing and age-defying skin benefits
- globally compliant, not based on controversial cannabis derivatives
- conveys a strong image of luxury and beauty

elixiance™ biofunctional

natural and sustainable Peruvian *Schinus molle* extract with pollution-shielding, skin-purifying and age-perfecting benefits

INCI: Propanediol (and) Water (and) *Schinus molle* Extract

INCI: Propanediol (and) Water/Aqua (and) Bioflavonoids

preservative system: no preservative

COSMOS* validated

recommended use level: 1 to 1.5%

- antioxidant: *Schinus molle* leaf extract is known to have antioxidant properties
- a significant cell protection against air pollution PM2.5 and PM10 *(in vitro)*
- a strengthening of the skin barrier *(in vitro, ex vivo)*
- oil control and pore refining *(in vivo)*
- a fresher, younger-looking skin with less visible wrinkles *(in vivo)*

lipigenine™ biofunctional

advancing physical and biochemical skin barrier functions - probiotic-like effect

INCI: Water (and) Glycerin (and) Linum Usitatissimum (Linseed) Seed Extract

preservative system: phenoxyethanol, sodium benzoate

recommended use level: 1 to 1.5% (clinically tested at 1.5%)

- may help skin enhance natural lipid synthesis within the *stratum corneum*
- may help skin with natural lipidic homeostasis and recovery following stress
- enhances *in vitro* and *ex vivo* antimicrobial peptides (cathelicidin and beta defensins)
- may help normalize microflora balance on the surface of skin
- supports a skin soothing effect and may limit the appearance of skin sensitivity

neomatrix™ biofunctional

inspired by wound healing science and stratifin epidermal biomessenger that is linked with dermal remodeling and wrinkle repair

INCI: Water (and) Glycerin (and) sh-Pentapeptide-6 Triflouroacetate

preservative system: sodium benzoate, potassium sorbate

recommended use level: 1% (clinically tested at 1%)

biomessaging technology:

- enhances epidermal stratifin expression to help skin optimize epidermal-dermal cross-talk *(in vitro, ex vivo)*

matrix remodeling:

- ECM turnover balance through skin's physiological and normal MMPs expression for aged collagen degradation in parallel with neo-collagen synthesis *(in vitro)*
- new Matrix production: pro-collagen, collagen I, collagen III, hyaluronic acid *(in vitro, ex vivo)*
- dermal reorganization: helps skin improve fibroblast strength and optimize matrix contraction *(in vitro)*
- clinical study: visible decrease in the appearance of wrinkles (*in vivo*)

oleanoline™ **is** biofunctional

olive leaf extract that detoxifies and clarifies skin and is clinically proven to improve the appearance of irritated skin

INCI: Europaea (Olive) Fruit Oil (and) Olea Europaea (Olive) Leaf Extract

preservative system: no preservative

COSMOS* validated

recommended use level: 1 to 5% (clinically tested at 2% and 5%)

- helps reduce the appearance of skin redness
- helps preserve skin barrier function in presence of stress

oxygenated glycerol triesters d™ biofunctional

clinically shown to help improve scalp condition; helps provide comfort and soothing properties

INCI: Oxidized Corn Oil

preservative system: no preservative

COSMOS* validated

recommended use level: 2% to pure (clinically tested at 2% and 3%)

- super-oxygenated corn oil
- soothing properties

peptide vinci™ **02 is** biofunctional

peptide to promote skin's natural renewal; has also been clinically proven to help give the appearance of plump lips

INCI: Water (and) Butylene Glycol (and) Hexapeptide-3

preservative system: no preservative

recommended use level: 0.25 to 1% (clinically tested at 0.25% with 0.5% atpeptide is)

- helps promote skin renewal *(in vitro)*
- enhances extracellular matrix protein synthesis *(in vitro)*
- demonstrates a significant plumping, hydrating and smoothing effect on the lips *(in vivo)*

phytocohesine™ **psp** biofunctional

visibly improves skin appearance and helps protect skin from environmental stresses

INCI: Sodium Beta-Sitosteryl Sulfate (and) Beta-Sitosterol

preservative system: no preservative

recommended use level: 0.1 to 1% (clinically tested at 1%)

- helps reinforce the skin barrier
- enhances keratin synthesis *(in vitro)*
- protects skin moisture from UV and chemical aggression
- helps improve hydration in normal and dry skin

rosaliss™ biofunctional

haute couture for your skin – rose of "100 petals" from Provence for a perfect skin

INCI: Water (and) Butylene Glycol (and) Rosa Centifolia Extract

preservative system: no preservative

recommended use level: 1%

- a 100% natural extract of Rosa centifolia flower sourced locally in Provence (south of France)
- uses Ashland's proprietary and patented Plant Small RNA Technology (PSRTM), a novel green chemistry for superior efficacy.
- inspired by scientific research in regenerative medicine to help skin achieve a flawless self-repair.

Rosaliss is associated with skin perfecting benefits for age-marked and acne-damaged skin:

- helps skin increase its capital to self-repair (in vitro, ex vivo)
- preserve microbiome from sun damage with a prebiotic and postbiotic effect (in vitro)
- skin looks brighter & evened: skin texture appears smoother (clinical study)
- skin is more hydrated and looks firmer (clinical study)
- skin looks repaired: imperfections such as blemishes appear less apparent (clinical study)

vital et™ biofunctional

multifunctional vitamin E derivative for skin multilevel rescue against various stresses

INCI: Disodium Lauriminodipropionate Tocopheryl Phosphates

preservative system: phenoxyethanol, dehydroacetic acid, benzoic acid.

recommended use level: 1% to 7.5% (clinically tested at 1.25%, 2.5%, 5% and 7.5%)

sun defenses

- prepares skin for sun exposure: visibly reduces UV-induced redness with a pre-treatment (clinical)
- sunburn rescue and after-sun recovery
- photoaging: decreases sunburn cell formation

age-defying rescue

- inflammaging: helps skin fight low chronic inflammation induced by chronic UV stress leading to premature aging in a 3D model
- senescence: helps maintain collagen production in a senescent environment ex vivo
- DNA damage: helps limit cyclobutane pyrimidine dimer (CPD) formation under UV stress

soothing

- acne-related stress:
  – visible decrease in spot redness and shape in 6 days
  – helps decrease acne-related inflammation markers
- shaving and after-shave:
  – visibly helps skin recover after shaving
  – visibly decreases skin discomfort (dryness, redness, burning, itching) after 4 weeks of use

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Ashland™
always solving

vincience™ essentials

simply essential
biofunctionals for the skin

acnacidol™ bg biofunctional

clinically tested Royal Jelly mimetic that helps balance sebum

INCI: Butylene Glycol (and) 10-Hydroxydecanoic Acid (and) Sebacic Acid (and) 1,10-Decanediol

preservative system: no preservative

recommended use level: 1 to 5% (clinically tested at 3%)

- decreases sebum in 1 hour

aqua-osmoline™ biofunctional

targets water control for improved hydration and skin glow

INCI: Water (and) Glycerin (and) Ceratonia Siliqua (Carob) Seed Extract

preservative system: phenoxyethanol, sodium benzoate

recommended use level: 1% (clinically tested at 1%)

- associated with results *in vitro/ex vivo* hyaluronic acid expression *(ex vivo)*
- linked with water filling and renewal effects
- targeted water channeling control and water sealing
- improved hydration contributes to preserve cell shape and cohesion during stress
- maintains skin's natural expression of proteins linked with epidermal differentiation and *stratum corneum* plasticity
- increased skin hydration and perception of skin glow *(in vivo)*

aquarize is™ biofunctional

anti-aging skin-moisturizing rice extract with clinically proven efficacy on short-term and long-term hydration of the skin

INCI: Water (and) Butylene Glycol (and) Hydrolyzed Rice Extract

preservative system: no preservative

recommended use level: 1 to 3% (clinically tested at 1%)

- supports synthesis of collagen I and collagen III *(in vitro, ex vivo)*
- supports expression of filaggrin *(ex vivo)*
- significantly increases skin hydration
- reinforces skin barrier function

cotton bloom™ 5s biofunctional

skin cocooning and cushioning

INCI: Water (and) Glycerin (and) Hydrolyzed Cottonseed Extract (and) Trehalose (and) Glucose (and) Fructose (and) Sucrose (and) Inositol

preservative system: sodium benzoate

recommended use level: 0.5 to 1.5% (clinically tested at 1.5%)

- may help increase the resistance of skin cells during osmotic shock *(in vitro)*
- may help limit stress-induced DNA damage *(in vitro)*
- contributes to improvement of skin hydration *(in vivo)*

gp4g sp™ biofunctional

aquatic energizing and protecting plankton nucleotides to help the skin absorb environmental aging shocks

INCI: Water (and) Artemia Extract

preservative system: phenoxyethanol, potassium sorbate

recommended use level: 1 to 2% (clinically tested at 2%)

- ultraviolet shocks, oxidative stress and DNA damage. *In vitro* results with gp4g sp™
- infrared shocks, mitochondria stress, ROS production. *In vitro* results with gp4g sp™
- heat shocks, protein damage. Role of Heat Shock Proteins (HSP). *In vitro* results of gp4g sp™
- cold shocks, DNA transcription and protein translation slow down. Role of Cold Inducible RNA Binding Proteins (CIRBP). *In vitro* effect of gp4g sp™
- *In vivo* results suggest gp4g sp™ may help limit the appearance of skin aging

marine hydrolyzed collagen a™ biofunctional

marine collagen oligopeptides

INCI: Water (and) Hydrolyzed Collagen

preservative system: benzoic acid, sorbic acid

recommended use level: 1% - 5%

- helps increase keratin 14 associated with hair strength (ex vivo scalp)
- can help repair damaged hair
- associated with softer hair feel

oleanoline™ is biofunctional

olive leaf extract that detoxifies and clarifies skin and is clinically proven to improve the appearance of irritated skin

INCI: Europaea (Olive) Fruit Oil (and) Olea Europaea (Olive) Leaf Extract

preservative system: no preservative

COSMOS* validated

recommended use level: 1 to 5% (clinically tested at 2% and 5%)

- helps reduce the appearance of skin redness
- helps preserve skin barrier function in presence of stress

oxygenated glycerol triesters d™ biofunctional

clinically shown to help improve scalp condition; helps provide comfort and soothing properties

INCI: Oxidized Corn Oil

preservative system: no preservative

COSMOS* validated

recommended use level: 2% to pure (clinically tested at 2% and 3%)

- super-oxygenated corn oil
- soothing properties

vegetal ceramides bgg™ biofunctional

rice extract clinically proven to improve skin moisturization

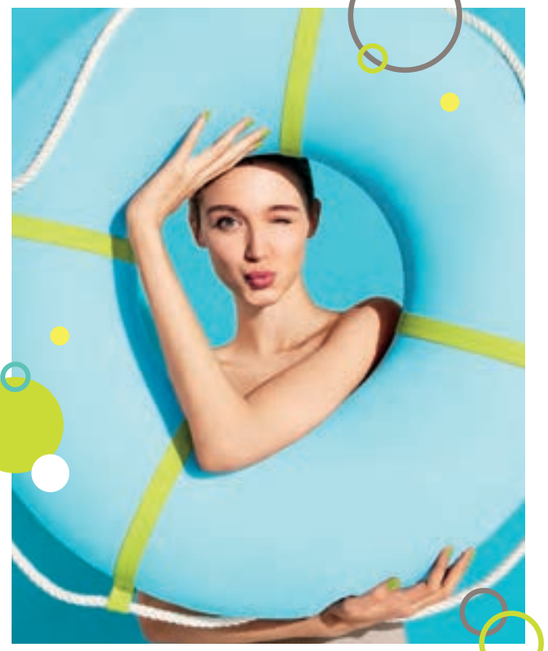
INCI: Butylene Glycol (and) Oryza Sativa (Rice) Bran Extract

preservative system: no preservative

COSMOS* validated

recommended use level: 1%

- significantly increases skin hydration
- reinforces skin barrier function
- protects skin from environmental aggression



vital et™ biofunctional

multifunctional vitamin E derivative for skin multilevel rescue against various stresses

INCI: Disodium Lauriminodipropionate Tocopheryl Phosphates

preservative system: phenoxyethanol, dehydroacetic acid, benzoic acid

recommended use level: 1% to 7.5% (clinically tested at 1.25%, 2.5%, 5% and 7.5%)

sun defenses

- prepares skin for sun exposure: visibly reduces UV-induced redness with a pre-treatment (clinical)
- sunburn rescue and after-sun recovery
- photoaging: decreases sunburn cell formation

age-defying rescue

- inflammaging: helps skin fight low chronic inflammation induced by chronic UV stress leading to premature aging in a 3D model
- senescence: helps maintain collagen production in a senescent environment *ex vivo*
- DNA damage: helps limit cyclobutane pyrimidine dimer (CPD) formation under UV stress

soothing

- acne-related stress:
  - visible decrease in spot redness and shape in 6 days
  - helps decrease acne-related inflammation markers
- shaving and after-shave:
  - visibly helps skin recover after shaving

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Ashland™
always solving

vincience™ skin biomimicry

peptides, proteins, lipid-identical mimicking skin naturally occurring components

actopontine™ biofunctional

bioinspired by nature to optimize skin matrix architecture

INCI: Water (and) Butylene Glycol (and) sh-Hexapeptide-2

preservative system: sodium benzoate

recommended use level: 1% (clinically tested at 1%)

- associated with an *in vitro* increase in proteins critical for building and remodeling the Extracellular Matrix: dermatopontin, collagen I, collagen III, laminin-V, fibronectin and alpha-3 integrin
- shown *in vitro* to enhance proteins involved in cell shape and integrity: paxillin for fibroblasts' shape, and moesin, which is known as a marker of cell longevity and integrity
- for potential enhancement of skin elasticity and density: tropo-elastin and elastin-associated proteins involved in elastin fiber assembly, skin density and fiber orientation that are known to contribute to a youthful appearance

actopontine yst™ biofunctional

bioinspired by nature to optimize skin matrix architecture

INCI: Water (and) Glycerin (and) Hydrolyzed Yeast Protein

preservative system: sodium benzoate

COSMOS* validated

recommended use level: 1%

- associated with results *in vitro*/*ex vivo* hyaluronic acid expression *(ex vivo)*
- linked with water filling and renewal effects
- targets water channeling control and water sealing
- improved hydration contributes to preserve cell shape and cohesion during stress
- maintains skin's natural expression of proteins linked with epidermal differentiation and *stratum corneum* plasticity
- increases skin hydration and perception of skin glow *(in vivo)*

atpeptide™ **is** biofunctional

an energy-boosting peptide specially designed to help revitalize aging skin as well as help smooth the appearance of cellulite prone skin

INCI: Water (and) Butylene Glycol (and) Tripeptide-3

preservative system: no preservative

recommended use level: 0.5 to 1.5%

- supports maintenance of ATP levels *(in vitro)*
- increases levels of intracellular calcium *(in vitro)*
- helps lipolysis *(in vitro)*

caspaline 14™ biofunctional

synthetic peptide to help enhance skin's natural UV defenses and help fight the visible signs of aging

INCI: Water (and) Propanediol (and) Hexapeptide-42

preservative system: sodium benzoate

recommended use level: 0.5 to 1% (clinically tested at 0.5%)

- helps maintain expression of caspase-14 *(in vitro, ex vivo)*
- helps maintain expression of filaggrin (precursor of NMF) *(ex vivo)*
- helps limit skin damage from UV *(ex vivo, in vivo)*

chondricare™ **is** biofunctional

anti-aging peptide designed to adaptively energize skin; inspired by the science of mitochondrial DNA

INCI: Water (and) Butylene Glycol (and) Pentapeptide-28

preservative system: no preservative

recommended use level: 1%

- increases aconitase enzymatic activity *(in vitro)*
- stimulates cell vitality *(in vitro)*

chronogen™ biofunctional

innovative anti-aging tetrapeptide, designed using advanced molecular biology and inspired by epigenetic science

INCI: Water (and) Butylene Glycol (and) Tetrapeptide-26

preservative system: phenoxyethanol, sodium benzoate

recommended use level: 1% (clinically tested at 1%)

- associated with a maintenance of expression of CLOCK, BMAL1 and PER1 *(in vitro, ex vivo)*
- associated with a decrease of induced sun burn cells
- *in vitro* results show repair of UV damage

chronogen™ **yst** biofunctional

one of the first biofunctional ingredients inspired by clock genes, Chronogen™ YST biofunctional is designed to provide a cosmetic solution to the deleterious effects of social jetlag on the skin

INCI (proposed): Water (and) Glycerin (and) Hydrolyzed Yeast Protein

preservative system: sodium benzoate

COSMOS* validated

recommended use level: 1% (clinically tested at 1%)

- associated with a maintenance of expression of CLOCK, BMAL1 and PER1 *(in vitro)*
- associated with a decrease of induced sun burn cells *(ex vivo)*
- age-defying approach to help strengthen the skin's capabilities for protection and self-regeneration

collaxyl™ **is** biofunctional

anti-aging peptide clinically proven to visibly reduce the length and depth of wrinkles

INCI: Water (and) Butylene Glycol (and) Hexapeptide-9

preservative system: no preservative

recommended use level: 0.5 to 1.5% (clinically tested at 1.5%)

- rapidly decreases the appearance of skin wrinkles *(in vivo)*
- enhances epidermal renewal (ex vivo)
- associated with protein synthesis (collagen types I and III) *(in vitro)*
- associated with maintenance of dermal-epidermal junction key proteins (laminin-5, integrins, collagen IV) *(in vitro)*
- associated with a stimulus in epidermal differentiation markers (keratin, filaggrin) *(in vitro)*

dermostatyl is™ biofunctional

anti-aging peptide, inspired by epigenetic science related to collagen renewal and melanin regulation, to help reduce the appearance of wrinkles and brighten skin tone

INCI: Water (and) Butylene Glycol (and) Hexapeptide-2

preservative system: no preservative

COSMOS* validated

recommended use level: 0.5 to 1% (clinically tested at 1%)

- epigenetic scientific approach targeting microRNA
- helps limit age related increase of miR-29 *(in vitro)*; miR-29 is linked to collagen synthetism
- helps boost the synthesis of procollagen and *ex vivo* expression of collagen I and collagen III *(in vitro)*
- helps maintain prolidase activity, an enzyme involved in collagen recycling *(in vitro)*
- *in vivo* study suggests reduction of the appearance of wrinkles
- helps boosts the expression of miR-218; miR-218 is linked to several pathways regulating melanin synthesis
- helps decrease *in vitro* and *ex vivo* the expression of melanin
- *in vivo* study demonstrates brightening of skin tone appearance

gp4g sp™ biofunctional

aquatic energizing and protecting plankton nucleotides to help the skin absorb environmental aging shocks

INCI: Water (and) Artemia Extract

preservative system: phenoxyethanol, potassium sorbate

recommended use level: 1 to 2% (clinically tested at 2%)

- ultraviolet shocks, oxidative stress and DNA damage. *In vitro* results with gp4g sp™
- infrared shocks, mitochondria stress, ROS production. *In vitro* results with gp4g sp™
- heat shocks, protein damage. Role of Heat Shock Proteins (HSP). *In vitro* results of gp4g sp™
- cold shocks, DNA transcription and protein translation slow down. Role of Cold Inducible RNA Binding Proteins (CIRBP). *In vitro* effect of gp4g sp™
- *In vivo* results suggest gp4g sp™ may help limit the appearance of skin aging

laminixyl is™ biofunctional

laminin-5 peptide designed to help preserve skin integrity and the dermal-epidermal junction

INCI: Water (and) Butylene Glycol (and) Heptapeptide-8

preservative system: no preservative

recommended use level: 0.5% (clinically tested at 0.5%)

- *in vitro* tests show enhanced synthesis of laminin-5 and ß1 integrin (key components of the dermo-epidermal junction)
- *ex vivo* lab results show enhanced synthesis of integrins and keratins (involved in cell-to-cell adhesion and improvement of the skin barrier function)
- enhances *ex vivo* the synthesis of extracellular matrix proteins (involved in consolidating the support network of the skin)

neomatrix™ biofunctional

inspired by wound healing science and stratifin epidermal biomessenger that is linked with dermal remodeling and wrinkle repair

INCI: Water (and) Glycerin (and) sh-Pentapeptide-6 Triflouroacetate

preservative system: sodium benzoate, potassium sorbate

recommended use level: 1% (clinically tested at 1%)

biomessaging technology:

- enhances epidermal stratifin expression to help skin optimize epidermal-dermal cross-talk *(in vitro, ex vivo)*

matrix remodeling:

- ECM turnover balance through skin's physiological and normal MMPs expression for aged collagen degradation in parallel with neo-collagen synthesis *(in vitro)*
- new Matrix production: pro-collagen, collagen I, collagen III, hyaluronic acid *(in vitro, ex vivo)*
- dermal reorganization: helps skin improve fibroblast strength and optimize matrix contraction *(in vitro)*
- clinical study: visible decrease in the appearance of wrinkles *(in vivo)*

peptide q10™ biofunctional

indoor pollution: anti-aging peptide boosting skin's ubiquitous CoQ10 for antioxidant defenses

INCI: Water (and) Propanediol (and) Pentapeptide-34 Trifluoroacetate

preservative system: sodium benzoate

recommended use level: 0.5 to 1% (clinically tested at 0.5% and 1%)

- associated with endogenous synthesis of CoQ10 and non-mitochondrial CoQ10 through UBIAD1 pathway *(in vitro)*
- with indoor pollution (model using cumene volatile organic compound): limit lipid peroxidation, ROS production and maintain cell membrane integrity *(in vitro)*
- decreases protein damage by reactive nitrogen species *(in vitro)*
- decreases sun damage (UVB, UVA, *in vitro*)
- limits appearance of skin aging (wrinkles and skin smoothness, *in vivo*)

peptide vinci™ **02 is** biofunctional

peptide to promote skin's natural renewal; has also been clinically proven to help give the appearance of plump lips

INCI: Water (and) Butylene Glycol (and) Hexapeptide-3

preservative system: no preservative

recommended use level: 0.25 to 1% (clinically tested at 0.25% with 0.5% atpeptide is)

- helps promote skin renewal *(in vitro)*
- enhances extracellular matrix protein synthesis *(in vitro)*
- demonstrates a significant plumping, hydrating and smoothing effect on the lips *(in vivo)*

phytocohesine™ **psp** biofunctional

visibly improves skin appearance and helps protect skin from environmental stresses

INCI: Sodium Beta-Sitosteryl Sulfate (and) Beta-Sitosterol

preservative system: no preservative

recommended use level: 0.1 to 1% (clinically tested at 1%)

- helps reinforce the skin barrier
- enhances keratin synthesis *(in vitro)*
- protects skin moisture from UV and chemical aggression
- helps improve hydration in normal and dry skin

prolixir s20™ biofunctional

designed to help skin age gracefully

INCI: Water (and) Butylene Glycol (and) Dimer Tripeptide-43

preservative system: phenoxyethanol, sodium benzoate

recommended use level: 1% (clinically tested at 1%)

- helps detoxify young and stressed skin
- helps maintain natural defense of older skin
- provides visible benefits by decreasing the appearance of skin wrinkles and improving skin tonicity and beauty

prolixir-ice™ biofunctional

designed to help skin age gracefully

INCI: Water (and) Glycerin (and) Hydrolyzed Rice Protein

preservative system: sodium benzoate

COSMOS* validated

recommended use level: 1%

- helps detoxify young and stressed skin
- helps maintain natural defense of older skin
- provides visible benefits by decreasing the appearance of skin wrinkles and improving skin tonicity and beauty

quintescine™ **is** biofunctional

glutathione-biomimetic antioxidant peptide to help preserve against glycation damage, to help protect skin from environmental stresses and prevents loss of skin resiliency

INCI: Water (and) Butylene Glycol (and) Dipeptide-4

preservative system: no preservative

recommended use level: 0.25 to 2.5% (clinically tested at 2.5%)

- glutathione-biomimetic synthetic peptide
- helps preserve the skin from oxidative stresses
- helps improve the skins natural defense mechanisms against oxidative stresses (SOD and catalase)
- helps protect against glycation damage

survixyl is™ biofunctional

inspired by the science of stem cell biology and the potential benefits of maintaining the Stemness Recovery Complex™.

INCI: Water (and) Butylene Glycol (and) Pentapeptide-31

preservative system: sodium benzoate

recommended use level: 0.5 to 1.5% (clinically tested at 1%)

- helps boost the Stemness Recovery Complex™ *(in vitro, ex vivo)*
- helps preserve cells under conditions of stress *(in vitro, ex vivo, in vivo)*
- *in vivo* data from clinical studies demonstrate improved appearance in skin and self-rejuvenation

survixyl rz™ biofunctional

inspired by the science of stem cell biology and the potential benefits of maintaining the Stemness Recovery Complex™.

INCI: Water (and) Glycerin (and) Hydrolyzed Rice Protein

preservative system: sodium benzoate

COSMOS* validated

recommended use level: 0.5 to 1.5%

- helps boost the Stemness Recovery Complex™ *(in vitro, ex vivo)*
- helps preserve cells under conditions of stress *(in vitro, ex vivo, in vivo)*
- *in vivo* data from clinical studies demonstrate improved appearance in skin and self-rejuvenation

ucpeptide™ **v** biofunctional

innovative peptide inspired by the science of uncoupling proteins associated with heat production

INCI: Water (and) Butylene Glycol (and) Pentapeptide-25

preservative system: no preservative

recommended use level: 1%

- synthetic peptide biomimetic of UCPs (uncoupling proteins)
- helps limit the storage of lipids *(in vitro)*
- reduces the appearance of vacuoles in adipocytes *(in vitro)*

vital et™ biofunctional

multifunctional vitamin E derivative for skin multilevel rescue against various stresses

INCI: Disodium Lauriminodipropionate Tocopheryl Phosphates

preservative system: phenoxyethanol, dehydroacetic acid, benzoic acid.

recommended use level: 1% to 7.5% (clinically tested at 1.25%, 2.5%, 5% and 7.5%)

sun defenses

- prepares skin for sun exposure: visibly reduces UV-induced redness with a pre-treatment (clinical)
- sunburn rescue and after-sun recovery
- photoaging: decreases sunburn cell formation

age-defying rescue

- inflammaging: helps skin fight low chronic inflammation induced by chronic UV stress leading to premature aging in a 3D model
- senescence: helps maintain collagen production in a senescent environment ex vivo
- DNA damage: helps limit cyclobutane pyrimidine dimer (CPD) formation under UV stress

soothing

- acne-related stress:
  - visible decrease in spot redness and shape in 6 days
  - helps decrease acne-related inflammation markers
- shaving and after-shave:
  - visibly helps skin recover after shaving
  - visibly decreases skin discomfort (dryness, redness, burning, itching) after 4 weeks of use

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Ashland™
always solving

vincience™ breakthrough

biofunctionals with a technology differentiation or innovative biological targets

actopontine™ biofunctional

bioinspired by nature to optimize skin matrix architecture

INCI: Water (and) Butylene Glycol (and) sh-Hexapeptide-2

preservative system: sodium benzoate

recommended use level: 1% (clinically tested at 1%)

- associated with an *in vitro* increase in proteins critical for building and remodeling the Extracellular Matrix: dermatopontin, collagen I, collagen III, laminin-V, fibronectin and alpha-3 integrin
- shown *in vitro* to enhance proteins involved in cell shape and integrity: paxillin for fibroblasts' shape, and moesin, which is known as a marker of cell longevity and integrity
- for potential enhancement of skin elasticity and density: tropo-elastin and elastin-associated proteins involved in elastin fiber assembly, skin density and fiber orientation that are known to contribute to a youthful appearance

actopontine yst™ biofunctional

bioinspired by nature to optimize skin matrix architecture

INCI: Water (and) Glycerin (and) Hydrolyzed Yeast Protein

preservative system: sodium benzoate

COSMOS* validated

recommended use level: 1%

- associated with results *in vitro*/*ex vivo* hyaluronic acid expression *(ex vivo)*
- linked with water filling and renewal effects
- targets water channeling control and water sealing
- improved hydration contributes to preserve cell shape and cohesion during stress
- maintains skin's natural expression of proteins linked with epidermal differentiation and *stratum corneum* plasticity
- increases skin hydration and perception of skin glow *(in vivo)*

blumilight™ biofunctional

premium cocoa peptides for blue light pollution and digital aging

INCI: Water (and) Butylene Glycol (and) Theobroma Cacao (Cocoa) Seed Extract

preservative system: no preservative

COSMOS* validated

recommended use level: 1% (clinically tested at 1%)

- decrease in Reactive Oxygen Species during blue light stress *(in vitro)*
- maintenance of opsin photoreceptors during blue light stress *(in vitro)*
- increase in collagen1, fibrillin-1 and syndecan-4 *(in vitro, ex vivo)*
- visible improvement of elastin fibers network *(ex vivo)*
- improvement of skin elasticity *(in vivo)*
- visible improvement in appearance of skin wrinkles *(in vivo)*

caspaline 14™ biofunctional

synthetic peptide to help enhance skin's natural UV defenses and help fight the visible signs of aging

INCI: Water (and) Propanediol (and) Hexapeptide-42

preservative system: sodium benzoate

recommended use level: 0.5 to 1% (clinically tested at 0.5%)

- helps maintain expression of caspase-14 *(in vitro, ex vivo)*
- helps maintain expression of filaggrin (precursor of NMF) *(ex vivo)*
- helps limit skin damage from UV *(ex vivo, in vivo)*

cb2-skin™ biofunctional

capturing the "boho chic" trend, cb2-skin biofunctional is a patchouli-derived cb2 activator associated with skin calming, soothing benefits and greater skin comfort when skin is exposed to stress

INCI (proposed): Octyldodecanol (and) Pogostemon Cablin Leaf Extract

preservative system: no preservative

COSMOS* validated

recommended use level: 0.3 -1% (clinically tested at 1%)

- derived from premium patchouli
- from farm-to-skin; sustainable sourcing in Colombia with full traceability
- provides calming, relaxing and age-defying skin benefits
- globally compliant, not based on controversial cannabis derivatives
- conveys a strong image of luxury and beauty

chondricare™ is biofunctional

anti-aging peptide designed to adaptively energize skin; inspired by the science of mitochondrial DNA

INCI: Water (and) Butylene Glycol (and) Pentapeptide-28

preservative system: no preservative

recommended use level: 1%

- increases aconitase enzymatic activity *(in vitro)*
- stimulates cell vitality *(in vitro)*

chronogen™ biofunctional

innovative anti-aging tetrapeptide, designed using advanced molecular biology and inspired by epigenetic science

INCI: Water (and) Butylene Glycol (and) Tetrapeptide-26

preservative system: phenoxyethanol, sodium benzoate

recommended use level: 1% (clinically tested at 1%)

- associated with a maintenance of expression of CLOCK, BMAL1 and PER1 *(in vitro, ex vivo)*
- associated with a decrease of induced sun burn cells
- *in vitro* results show repair of UV damage

chronogen™ yst biofunctional

one of the first biofunctional ingredients inspired by clock genes, Chronogen™ YST biofunctional is designed to provide a cosmetic solution to the deleterious effects of social jetlag on the skin

INCI (proposed): Water (and) Glycerin (and) Hydrolyzed Yeast Protein

preservative system: sodium benzoate

COSMOS* validated

recommended use level: 1% (clinically tested at 1%)

- associated with a maintenance of expression of CLOCK, BMAL1 and PER1 *(in vitro)*
- associated with a decrease of induced sun burn cells *(ex vivo)*
- age-defying approach to help strengthen the skin's capabilities for protection and self-regeneration

dermostatyl is™ biofunctional

anti-aging peptide, inspired by epigenetic science related to collagen renewal and melanin regulation, to help reduce the appearance of wrinkles and brighten skin tone

INCI: Water (and) Butylene Glycol (and) Hexapeptide-2

preservative system: no preservative

COSMOS* validated

recommended use level: 0.5 to 1% (clinically tested at 1%)

- epigenetic scientific approach targeting microRNA
- helps limit age related increase of miR-29 *(in vitro)*; miR-29 is linked to collagen synthetism
- helps boost the synthesis of procollagen and *ex vivo* expression of collagen I and collagen III *(in vitro)*
- helps maintain prolidase activity, an enzyme involved in collagen recycling *(in vitro)*
- *in vivo* study suggests reduction of the appearance of wrinkles
- helps boosts the expression of miR-218; miR-218 is linked to several pathways regulating melanin synthesis
- helps decrease *in vitro* and *ex vivo* the expression of melanin
- *in vivo* study demonstrates brightening of skin tone appearance

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dynachondrine™ isr biofunctional

bioenergizing botanical extract inspired by scientific knowledge of mitochondrial sirtuin (SIRT3); designed to increase skin energy and reduce ROS

INCI: Water (and) Glycerin (and) Hydrolyzed Soy Protein (and) Sodium Benzoate (and) Potassium Sorbate

preservative system: Rokonsal™ BS preservative

COSMOS* validated

recommended use level: 1%

- maintains SIRT3 expression *(in vitro)*
- *in vitro* studies show an increase in mitochondrial membrane potential
- *in vitro* studies show an increase in durable ATP synthesis
- *in vitro* studies show a reduction in mitochondrial ROS production

elixiance™ biofunctional

natural and sustainable Peruvian *Schinus molle* extract with pollution-shielding, skin-purifying and age-perfecting benefits

INCI: Propanediol (and) Water/Aqua (and) *Schinus molle* Extract

INCI: Propanediol (and) Water/Aqua (and) Bioflavonoids

preservative system: no preservative

COSMOS* validated

recommended use level: 1 to 1.5%

- antioxidant: *Schinus molle* leaf extract is known to have antioxidant properties
- a significant cell protection against air pollution PM2.5 and PM10 *(in vitro)*
- a strengthening of the skin barrier *(in vitro, ex vivo)*
- oil control and pore refining *(in vivo)*
- a fresher, younger-looking skin with less visible wrinkles *(in vivo)*

gp4g sp™ biofunctional

aquatic energizing and protecting plankton nucleotides to help the skin absorb environmental aging shocks

INCI: Water (and) Artemia Extract

preservative system: phenoxyethanol, potassium sorbate

recommended use level: 1 to 2% (clinically tested at 2%)

- ultraviolet shocks, oxidative stress and DNA damage. *In vitro* results with gp4g sp™
- infrared shocks, mitochondria stress, ROS production. *In vitro* results with gp4g sp™
- heat shocks, protein damage. Role of Heat Shock Proteins (HSP). *In vitro* results of gp4g sp™
- cold shocks, DNA transcription and protein translation slow down. Role of Cold Inducible RNA Binding Proteins (CIRBP). *In vitro* effect of gp4g sp™
- *In vivo* results suggest gp4g sp™ may help limit the appearance of skin aging

harmoniance™ biofunctional

extracted with Zeta Fraction™ Technology, a Sacred Lotus extract for total anti-age control, face and body

INCI: Nelumbo Nucifera (Lotus) Extract

preservative system: potassium sorbate, sodium benzoate, sodium metabisulfite

recommended use level: 0.5 to 1% (clinically tested at 0.5%)

skin aging and dermis:

- increased collagen I expression (+38% *in vitro*)
- inhibition of elastase activity (–25% *in vitro*)
- improved skin softness (+25% *in vivo*)
- reduction in appearance of wrinkles (–20% *in vivo*)

antioxidant properties:

- ORAC (Oxygen Radical Absorbance Capacity): 1 g Lotus has antioxidant potency equal to 30.6 mg of (R)-Trolox methyl ether.
- DPPH (2,2-diphenyl-1-picrylhydrazyl) quenching: 1 g Lotus quenches 25.8 mg DPPH.

skin hydration and barrier function:

- increased filaggrin expression (+65% *ex vivo*)
- increased hyalyronic acid expression (+48% *ex vivo*)
- increased aquaporin 3 (AQP3) expression (+22% *ex vivo*)
- increased barried function (+85% *ex vivo*)
- increased skin hydration (+14% *in vivo*)
- decreased TEWL (–8% *in vivo*)

skin tone:

- melanin control (–80% *ex vivo* human skin)
- anti-inflammatory activity on PGE2 (–50%)

body contour and cellulite skin:

- increased glycerol release (+73% *in vitro*)
- drainage and body contouring (–12 mm on thigh *in vivo*)

lipigenine™ biofunctional

advancing physical and biochemical skin barrier functions

INCI: Water (and) Glycerin (and) Linum Usitatissimum (Linseed) Seed Extract

preservative system: phenoxyethanol, sodium benzoate

recommended use level: 1 to 1.5% (clinically tested at 1.5%)

- may help skin enhance natural lipid synthesis within the *stratum corneum*
- may help skin with natural lipidic homeostasis and recovery following stress
- enhances *in vitro* and *ex vivo* antimicrobial peptides (cathelicidin and beta defensins)
- may help normalize microflora balance on the surface of skin
- supports a skin soothing effect and may limit the appearance of skin sensitivity

neomatrix™ biofunctional

inspired by wound healing science and stratifin epidermal biomessenger that is linked with dermal remodeling and wrinkle repair

INCI: Water (and) Glycerin (and) sh-Pentapeptide-6 Triflouroacetate

preservative system: sodium benzoate, potassium sorbate

recommended use level: 1% (clinically tested at 1%)

biomessaging technology:

- enhances epidermal stratifin expression to help skin optimize epidermal-dermal cross-talk *(in vitro, ex vivo)*

matrix remodeling:

- ECM turnover balance through skin's physiological and normal MMPs expression for aged collagen degradation in parallel with neo-collagen synthesis *(in vitro)*
- new Matrix production: pro-collagen, collagen I, collagen III, hyaluronic acid *(in vitro, ex vivo)*
- dermal reorganization: helps skin improve fibroblast strength and optimize matrix contraction *(in vitro)*
- clinical study: visible decrease in the appearance of wrinkles (*in vivo*)

nightessense™ biofunctional

premium true lavender flower extract from Provence mountains for skin night-time reset

INCI: Butylene Glycol (and) Water (Aqua) (and) Lavandula Angustifolia (lavender) Flower Extract

preservative system: preservative free

COSMOS* validation (pending)

recommended use level: 0.5% to 1% (clinically tested at 1%)

- for the first time, a biofunctional designed to target skin needs at night
- optimize skin's nighttime processes, the noctology™, the biology of the skin at night associated with night repair, cleanse and renew
- helps skin repair and clean damages overnight
  – limit day light-induced oxidation
  – repair dark DNA damage (dark sun effect)
- boost essential nocturnal molecules: timezyme and melatonin and nocturnin
- overnight skin reset evaluation on Caucasian and Asian skin
- visible effect night worker's skin
- skin looks rested, renewed, illuminated with less dark circles after 28 days of application of a cream containing nightessence™ biofunctional at 1%

orsirtine™ isr biofunctional

a breakthrough anti-aging technology, inspired by the science of sirtuins and skin longevity; positioned for anti-aging facial products, it helps promote long-term skin benefits and protection from the effects of exposure to certain environmental stressors

INCI: Water (and) Glycerin (and) Oryza Sativa (Rice) Extract

preservative system: potassium sorbate, sodium benzoate

COSMOS* validated

recommended use level: 1% (clinically tested at 3%)

- *in vitro* lab tests demonstrate a decrease in cell senescence
- *in vitro* lab tests demonstrate extended longevity of aged keratinocytes and fibroblasts *(in vitro)*
- *in vitro* studies show SIRT1 content increased in the skin more than polyphenols
- skin protection and repair were demonstrated *in vitro* after UV and oxidative damage
- *ex vivo* studies demonstrate an improvement in the appearance of skin exposed or not exposed to UV

peptide q10™ biofunctional

indoor pollution: anti-aging peptide boosting skin's ubiquitous CoQ10 for antioxidant defenses

INCI: Water (and) Propanediol (and) Pentapeptide-34 Trifluoroacetate

preservative system: sodium benzoate

recommended use level: 0.5 to 1% (clinically tested at 0.5% and 1%)

- associated with endogenous synthesis of CoQ10 and non-mitochondrial CoQ10 through UBIAD1 pathway (*in vitro*)
- with indoor pollution (model using cumene volatile organic compound): limit lipid peroxidation, ROS production and maintain cell membrane integrity (*in vitro*)
- decreases protein damage by reactive nitrogen species (*in vitro*)
- decreases sun damage (UVB, UVA, *in vitro*)
- limits appearance of skin aging (wrinkles and skin smoothness, *in vivo*)

phytoRNx baobab™ biofunctional

baobab seed extract rich in plant small RNAs and associated with improved epigenetic homeostasis in aging skin

INCI: Water (and) Glycerin (and) Hydrolyzed Adansonia Digitata Extract

preservative system: phenoxyethanol

recommended use level: 1 to 3% (clinically tested at 1%)

PhytoRNx Baobab is associated with age defying attributes and improved skin homeostasis:

- increased collagen I and collagen III expression *(ex vivo)*
- improved expression of Drosha and Dicer in senescent cells *(in vitro)*
- limited increase in ß-galactosidase senescence marker activity following Dicer silencing *(in vitro)*
- significant reduction of the appearance of wrinkles on volunteers *(in vivo)*

PhytoRNx Baobab is associated with long-lasting skin moisturization:

- increased expression of hyaluronic acid *(ex vivo)*
- increased expression of hyaluronan synthases (HAS2) *(in vitro)*
- increased skin hydration (skin capacitance) 24 hours after application *(in vivo)*

prolixir s20™ biofunctional

designed to help skin age gracefully

INCI: Water (and) Butylene Glycol (and) Dimer Tripeptide-43

preservative system: phenoxyethanol, sodium benzoate

recommended use level: 1% (clinically tested at 1%)

- helps detoxify young and stressed skin
- helps maintain natural defense of older skin
- provides visible benefits by decreasing the appearance of skin wrinkles and improving skin tonicity and beauty

prolixir-ice™ biofunctional

designed to help skin age gracefully

INCI: Water (and) Glycerin (and) Hydrolyzed Rice Protein

preservative system: sodium benzoate

COSMOS* validated

recommended use level: 1%

- helps detoxify young and stressed skin
- helps maintain natural defense of older skin
- provides visible benefits by decreasing the appearance of skin wrinkles and improving skin tonicity and beauty

rosaliss™ biofunctional

haute couture for your skin – rose of "100 petals" from Provence for a perfect skin

INCI: Water (and) Butylene Glycol (and) Rosa Centifolia Extract

preservative system: no preservative

recommended use level: 1%

- a 100% natural extract of Rosa centifolia flower sourced locally in Provence (south of France)
- uses Ashland's proprietary and patented Plant Small RNA Technology (PSRTM), a novel green chemistry for superior efficacy.
- inspired by scientific research in regenerative medicine to help skin achieve a flawless self-repair.

Rosaliss is associated with skin perfecting benefits for age-marked and acne-damaged skin:

- helps skin increase its capital to self-repair (in vitro, ex vivo)
- preserve microbiome from sun damage with a prebiotic and postbiotic effect (in vitro)
- skin looks brighter & evened: skin texture appears smoother (clinical study)
- skin is more hydrated and looks firmer (clinical study)
- skin looks repaired: imperfections such as blemishes appear less apparent (clinical study)

seastem™ biofunctional

marine extract from giant kelp algae with Zeta Fraction™ Technology to combat the skin effects of pollution (diesel ultrafine particles) on epidermal stem cells and preserve the skin's self-regenerating and protecting properties.

INCI: Macrocystis Pyrifera Extract

preservative system: sodium benzoate, potassium sorbate

COSMOS* validated

recommended use level: 0.5 to 1% (clinically tested at 1%)

sustainable sourcing: eco-harvested giant kelp from the wild Pacific coast of California

sustainable technology: proprietary Zeta Fraction™ Technology

age-defying skin benefits: protection and self-regeneration

helps maintain epidermal stemness potential under diesel UFP pollution stress:

- **keratin 15:** anchoring stem cells to the niche *(ex vivo)*
- **SOX9:** maintaining stemness potential *(in vitro)*
- inspired by research in regenerative medicine and the amphibian, the axolotl; model for unlimited regeneration and scar-free healing
- associated with an increase in skin's capital to self-repair and protection of microbiome from sun damage
- **P63:** maintaining stem cells in place *(in vitro)*
- mitigates free radicals induced by nanoparticles *(in vitro)*

maintains skin regeneration potential and vitality under pollution stress:

- helps recovery from artificial wound *(in vitro)*
- helps skin clear away 50% more nanoparticles *(ex vivo)*
- improves by 40% epidermal thickness under UFP stress *(ex vivo)*
- clinical study: improved skin elasticity *(in vivo)*

protects skin barrier function as to nanoparticle pollutants and improves skin hydration:

- maintains loricrin levels under UFP stress, RHE
- improves NMF pathway at 1% *(ex vivo)*
- increases hyaluronic acid synthesis by 42% *(ex vivo)*
- clinical study: Improves skin hydration by 56% *(in vivo)*

serenityl™ biofunctional

condurango extract for skin detoxination, oxygenation and wellness

INCI: Marsdenia Cundurango Bark Extract (and) Caprylic/Capric Triglycerides

preservative system: no preservative

COSMOS* validated

recommended use level: 1% (clinically tested at 1%)

skin detoxination:

- increased TAS2R38 bitter taste receptor *(+25% ex vivo)* and chemerin antimicrobial agent *(+25% ex vivo)*, both associated with skin detoxination from certain environmental toxins
- increased autophagy process (+28% LC3 and +16% LAMP2) associated with the elimination of internal toxins
- increased skin barrier function (–10% TEWL)

skin oxygenation:

- increased COX IV involved in cell oxygenation *(+36% ex vivo)*
- improved skin rosiness *(+3% in vivo)*

skin wellness:

- oxytocin-like benefit: reduced IL-6Rß induced by stress, *(–14%, ex vivo)*
- reduced skin discomfort after stinging text *(–21% in vivo)*

healthier look and feel-looking:

- less visible fine lines *(–36% in vivo)*
- improved skin comfort (+80% of the volunteers)

signaline™ s biofunctional

a botanical inspired by the science of cellular activation signaling and designed to improve and maintain youthful skin appearance

INCI: Olea Europaea (Olive) Fruit Oil (and) Simmondsia Chinensis (Jojoba) Seed Extract

preservative system: no preservative

COSMOS* validated

recommended use level: 0.25 to 0.5%

- optimizes skin renewal
- increases intracellular ATP level *(in vitro)*
- increases intracellular calcium *(in vitro)*
- helps dermal renewal and ECM synthesis

suprastim™ biofunctional

Amazonian superfruit extract that mitigates the visible signs of skin fatigue, imparting a healthy glow

INCI: Water (and) Propanediol (and) Myrciaria Dubia Fruit Extract

preservative system: preservative free

COSMOS* validated

recommended use level: 1% (clinically tested at 1%)

helps maintain cellular energy flows in 3D models of skin fatigue:

- helps limit the drop in PFK2 (key enzyme for glycolysis), which can be induced by skin fatigue
- helps limit the drop in energy (ATP) induced by skin fatigue
- associated with better energy storage (creatine kinase)
- boosts the synthesis of collagen, which is associated with skin firmness

helps reduce the visible signs of stress:

- helps decrease the 11ß-HSD1 enzyme associated with lower cortisol levels

helps combat the visible signs of skin fatigue (*in vivo*):

- increased luminosity in the area below the eyes

survixyl is™ biofunctional

inspired by the science of stem cell biology and the potential benefits of maintaining the Stemness Recovery Complex™

INCI: Water (and) Butylene Glycol (and) Pentapeptide-31

preservative system: sodium benzoate

recommended use level: 0.5 to 1.5% (clinically tested at 1%)

- helps boost the Stemness Recovery Complex™ *(in vitro, ex vivo)*
- helps preserve cells under conditions of stress *(in vitro, ex vivo, in vivo)*
- *in vivo* data from clinical studies demonstrate improved appearance in skin and self-rejuvenation

survixyl rz™ biofunctional

inspired by the science of stem cell biology and the potential benefits of maintaining the Stemness Recovery Complex™

INCI: Water (and) Glycerin (and) Hydrolyzed Rice Protein

preservative system: sodium benzoate

COSMOS* validated

recommended use level: 0.5 to 1.5%

- helps boost the Stemness Recovery Complex™ *(in vitro, ex vivo)*
- helps preserve cells under conditions of stress *(in vitro, ex vivo, in vivo)*
- *in vivo* data from clinical studies demonstrate improved appearance in skin and self-rejuvenation

telosense™ biofunctional

inspired by the science of telomeres and anti-aging

INCI: Water (and) Glycerin (and) Hydrolyzed Yeast Protein (and) Hydrolyzed Soy Protein

preservative system: sodium benzoate

COSMOS* validated

recommended use level: 0.5 to 1% (clinically tested at 1%)

- associated with an increase of an important element of the Telomere Sheltering Complex™ *(in vitro)*
- associated with an increase of lamin A expression in aging cells; lamins are implicated in nuclear DNA stability and gene expression *(in vitro)*
- associated with a reduction in the accumulation of cellular aging markers, suggesting cellular senescence is delayed and cell longevity is improved *(in vitro)*
- helps improve the appearance of the skin and reduce the appearance of wrinkles

ucpeptide™ v biofunctional

innovative peptide inspired by the science of uncoupling proteins associated with heat production

INCI: Water (and) Butylene Glycol (and) Pentapeptide-25

preservative system: no preservative

recommended use level: 1%

- synthetic peptide biomimetic of UCPs (uncoupling proteins)
- helps limit the storage of lipids *(in vitro)*
- reduces the appearance of vacuoles in adipocytes *(in vitro)*

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Ashland™
always solving

vincience™ biotHAIRapy
& scalp solutions

biofunctional ingredients
demonstrated to revitalize
hair from root to tip and scalp

biotHAIRapy solutions

capauxein™ g2 biofunctional

a vegetable protein inspired by the Hair Fullness System™ concept and associated with hair density

INCI: Water (and) Glycerin (and) Hydrolyzed Corn Protein (and) Adenosine (and) Magnesium Ascorbyl Phosphate (and) Carnitine

preservative system: sodium benzoate

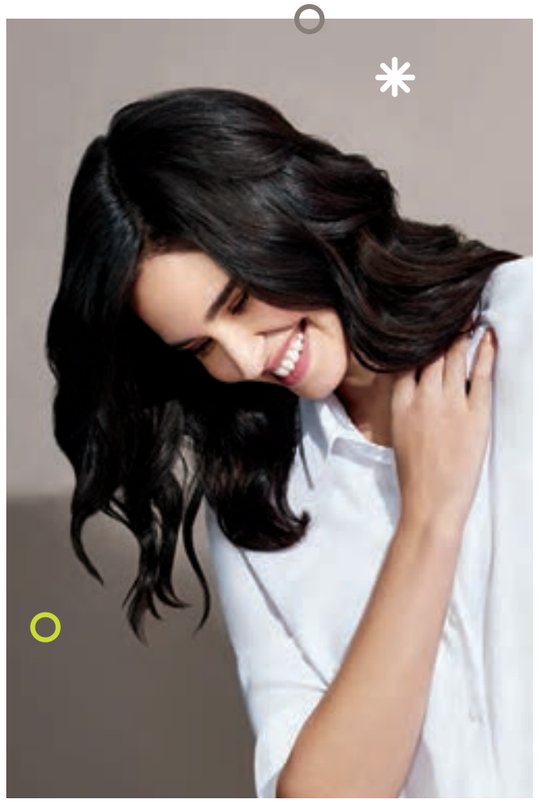
recommended use level: 1%

increase key biomarkers:

- Ki67 and ß1-integrin, markers of proliferation and communication, respectively *(in vitro, ex vivo)*
- versican and noggin, highly expressed during the anagen phase in the dermal papilla (3D-spheres)

visible benefits on 39 panelists:

- healthier scalp with less visible oiliness and more hydration *(in vivo)*
- visible maintenance of the anagen phase *(in vivo)*
- visible improvement of hair density and fullness *(in vivo)*



chromafend™ biofunctional

a flax seed extract inspired by the"Hair Melanin System™" concept to help hair preserve original color.

INCI: Water (and) Glycerin (and) Hydrolyzed Linseed Extract

preservative system: sodium benzoate

COSMOS* validated

recommended use level: 1% (clinically tested at 1%)

boosts key pigmentation markers:

- increased tyrosinase, *in vitro, ex vivo, in vivo*
- increased TRP1, pmel17, *in vitro*
- increased MITF and cKit, known as critical regulators of melanocytes and melanocyte stem cells *in vitro*
- increased PAR-2 involved in melanin transfer *in vitro*
- increased melanin in the hair cortex *ex vivo*

limiting the appearance of gray hair *in vivo:*

- increased hair darkening (L* value)
- increased amount of dark hair (trichoScan)
- long lasting benefits (still effective at 120 days)

dynagen™ biofunctional

a yeast extract inspired by the "Hair Keratin System™" concept for stronger and healthier looking hair.

INCI: Water (and) Glycerin (and) Hydrolyzed Yeast Protein

preservative system: sodium benzoate, potassium sorbate

COSMOS* validated

recommended use level: 0.5 to 1%

- consumer-perceivable benefit for stronger, thicker, healthier hair feel *in vivo*
- increase in key protein markers, keratin 14, keratin 17, keratin 71, trichohyalin *ex vivo*, all of which are associated with minimization of hair fall
- increase in collagen I *ex vivo*
- increase in collagen IV and CD34 *ex vivo* associated with healthy appearance of the hair

procataline™ g2 biofunctional

a botanical extract to help shield hair and scalp from urban stress

INCI (proposed): Water (and) Glycerin (and) Pisum Sativum (Pea) Extract (and) Salvia Hispanica Seed Extract

preservative system: sodium benzoate

COSMOS* validated

recommended use level: 1% (clinically tested at 1%)

- extracted from pea (Pisum sativum) and chia (Salvia hispanica) seeds
- rich in peptides, amino acids, polysaccharides, polyphenols and minerals
- associated with hair detox, scalp purifying and soothing properties

protectagen™ biofunctional

a rice extract inspired by the "Hair Stemness System™" concept to mitigate stress and preserve hair growth capital

INCI: Water (and) Glycerin (and) Hydrolyzed Rice Protein

preservative system: sodium benzoate, potassium sorbate

COSMOS* validated

recommended use level: 0.5% to 1%

- increased stem cell markers, keratin 15, ß6-Integrin, ß-Catenin and p63, key to the maintenance of hair growth capital *ex vivo*
- helps preserve hair follicle against harmful UV damage, evidenced by the lower expression of p53 markers *ex vivo*
- improved appearance of hair length *ex vivo*

scalp solutions

acnacidol™ bg biofunctional

clinically tested Royal Jelly mimetic that helps balance sebum

INCI: Butylene Glycol (and) 10-Hydroxydecanoic Acid (and) Sebacic Acid (and) 1,10-Decanediol

preservative system: no preservative

COSMOS* validated

recommended use level: 1 to 5% (clinically tested at 3%)

- decreases sebum in 1 hour

cb2-skin™ biofunctional

capturing the "boho chic" trend, cb2-skin biofunctional is a patchouli-derived cb2 activator associated with skin calming, soothing benefits and greater skin comfort when skin is exposed to stress

INCI (proposed): Octyldodecanol (and) Pogostemon Cablin Leaf Extract

preservative system: no preservative

COSMOS* validated

recommended use level: 0.3 -1% (clinically tested at 1%)

- derived from premium patchouli
- from farm-to-skin; sustainable sourcing in Colombia with full traceability
- provides calming, relaxing and age-defying skin benefits
- globally compliant, not based on controversial cannabis derivatives
- conveys a strong image of luxury and beauty

gp4g sp™ biofunctional

aquatic energizing and protecting plankton nucleotides to help the skin absorb environmental aging shocks

INCI: Water (and) Artemia Extract

preservative system: phenoxyethanol, potassium sorbate

recommended use level: 1 to 2% (clinically tested at 2%)

- ultraviolet shocks, oxidative stress and DNA damage. *In vitro* results with gp4g sp™
- infrared shocks, mitochondria stress, ROS production. *In vitro* results with gp4g sp™
- heat shocks, protein damage. Role of Heat Shock Proteins (HSP). *In vitro* results of gp4g sp™
- cold shocks, DNA transcription and protein translation slow down. Role of Cold Inducible RNA Binding Proteins (CIRBP). *In vitro* effect of gp4g sp™
- *In vivo* results suggest gp4g sp™ may help limit the appearance of skin aging

infini'tea™ biofunctional

ultra fresh tea serum for a peaceful and balanced skin inspired by neurocosmetics and yoga

INCI: Camellia Sinensis Leaf Extract

preservative system: no preservative

COSMOS* validated

- neurocosmetic solution to calm and sooth the skin
- cosmetic solution inspired by yoga, sun do and meditation
- first detox concept for monosodium glutamate excitotoxin
- helps limit the damage of UV
- helps decrease ex vivo the expression of melanin
- reduces the appearance of redness and fine lines; increases skin luminosity
- fresh, natural, pure and minimally processed tea serum from patented zeta fraction™ technology
- unique composition with superior level of L-theanine and antioxidants compared to green and black tea
- tea leaves sourced and manufactured utilizing low environmental impact practices

lipigenine™ biofunctional

advancing physical and biochemical skin barrier functions

INCI: Water (and) Glycerin (and) Linum Usitatissimum (Linseed) Seed Extract

preservative system: phenoxyethanol, sodium benzoate

recommended use level: 1 to 1.5% (clinically tested at 1.5%)

- may help skin enhance natural lipid synthesis within the *stratum corneum*
- may help skin with natural lipidic homeostasis and recovery following stress
- enhances *in vitro* and *ex vivo* antimicrobial peptides (cathelicidin and beta defensins)
- may help normalize microflora balance on the surface of skin
- supports a skin soothing effect and may limit the appearance of skin sensitivity

marine hydrolyzed collagen a™ biofunctional

marine collagen oligopeptides

INCI: Water (and) Hydrolyzed Collagen

preservative system: benzoic acid, sorbic acid

recommended use level: 1% - 5%

- helps increase keratin 14 associated with hair strength (ex vivo scalp)
- can help repair damaged hair
- associated with softer hair feel

nightessense™ biofunctional

premium true lavender flower extract from Provence mountains for skin night-time reset

INCI: Butylene Glycol (and) Water (and) Lavandula Angustifolia (Lavender) Flower Extract

preservative system: preservative free

COSMOS* validated

recommended use level: 0.5% to 1% (clinically tested at 1%)

- for the first time, a biofunctional designed to target skin needs at night
- optimize skin's nighttime processes, the noctology™, the biology of the skin at night associated with night repair, cleanse and renew
- helps skin repair and clean damages overnight
  - limit day light-induced oxidation
  - repair dark DNA damage (dark sun effect)
- boost essential nocturnal molecules: timezyme and melatonin and nocturnin
- overnight skin reset evaluation on Caucasian and Asian skin
- visible effect night worker's skin
- skin looks rested, renewed, illuminated with less dark circles after 28 days of application of a cream containing nightessence™ biofunctional at 1%

oxygenated glycerol triesters d™ biofunctional

clinically shown to help improve scalp condition; helps provide comfort and soothing properties

INCI: Oxidized Corn Oil

preservative system: no preservative

COSMOS* validated

recommended use level: 2% to pure (clinically tested at 2% and 3%)

- super-oxygenated corn oil
- soothing properties

rosaliss™ biofunctional

haute couture for your skin – rose of "100 petals" from Provence for a perfect skin

INCI: Water (and) Butylene Glycol (and) Rosa Centifolia Extract

preservative system: no preservative

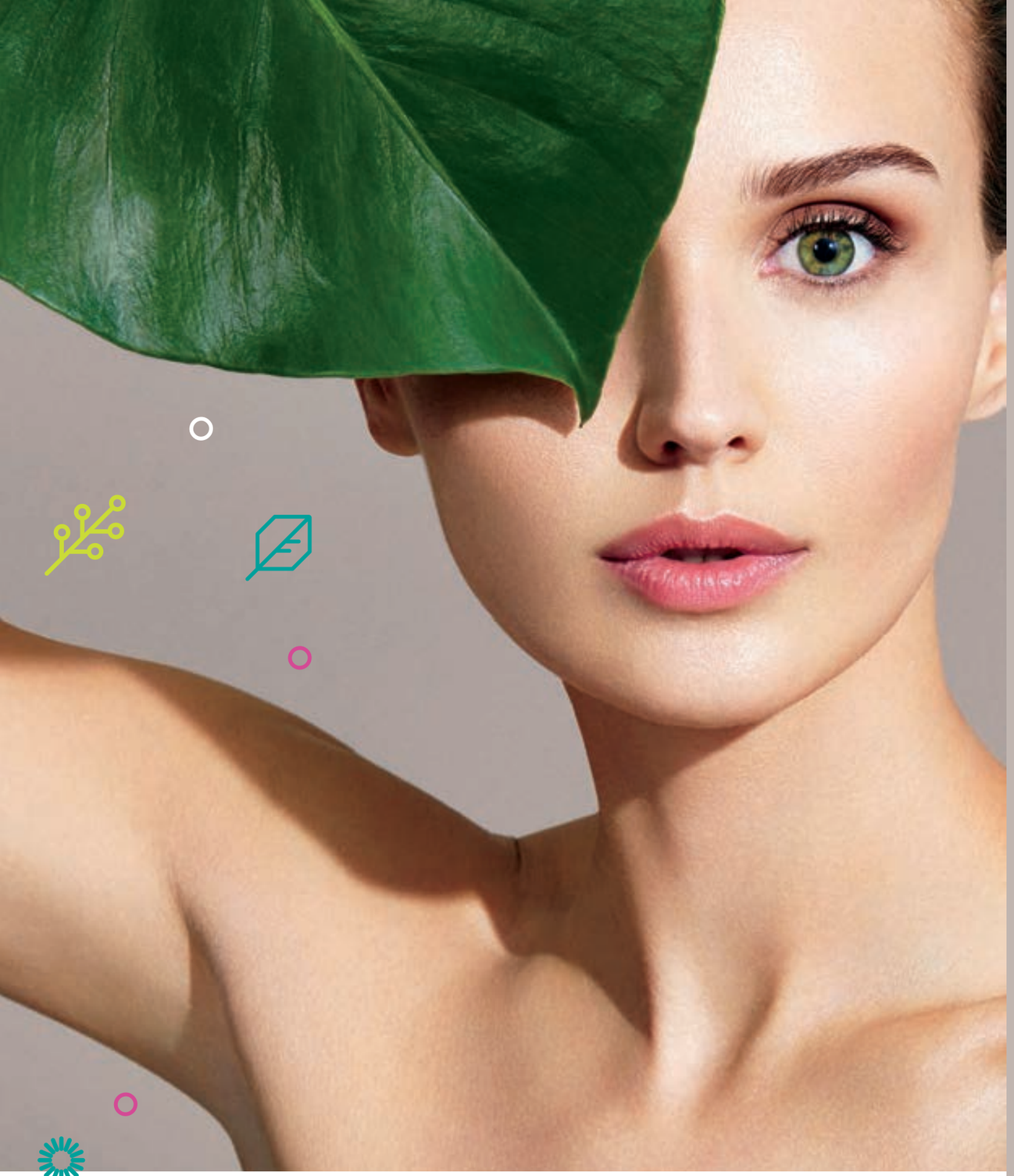
recommended use level: 1%

- a 100% natural extract of Rosa centifolia flower sourced locally in Provence (south of France)
- uses Ashland's proprietary and patented Plant Small RNA Technology (PSRTM), a novel green chemistry for superior efficacy.
- inspired by scientific research in regenerative medicine to help skin achieve a flawless self-repair.

Rosaliss is associated with skin perfecting benefits for age-marked and acne-damaged skin:

- helps skin increase its capital to self-repair (in vitro, ex vivo)
- preserve microbiome from sun damage with a prebiotic and postbiotic effect (in vitro)
- skin looks brighter & evened: skin texture appears smoother (clinical study)
- skin is more hydrated and looks firmer (clinical study)
- skin looks repaired: imperfections such as blemishes appear less apparent (clinical study)

Ashland™ always solving



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Ashland™
always solving

vincience™ body care

biofunctionals for body
contour, body moisture

aquarize is™ biofunctional

anti-aging skin-moisturizing rice extract with clinically proven efficacy on short-term and long-term hydration of the skin

INCI: Water (and) Butylene Glycol (and) Hydrolyzed Rice Extract

preservative system: no preservative

recommended use level: 1 to 3% (clinically tested at 1%)

- supports synthesis of collagen I and collagen III *(in vitro, ex vivo)*
- supports expression of filaggrin *(ex vivo)*
- significantly increases skin hydration
- reinforces skin barrier function

atpeptide™ is biofunctional

an energy-boosting peptide specially designed to help revitalize aging skin as well as help smooth the appearance of cellulite prone skin

INCI: Water (and) Butylene Glycol (and) Tripeptide-3

preservative system: no preservative

recommended use level: 0.5 to 1.5%

- supports maintenance of ATP levels *(in vitro)*
- increases levels of intracellular calcium *(in vitro)*
- helps lipolysis *(in vitro)*

cotton bloom™ 5s biofunctional

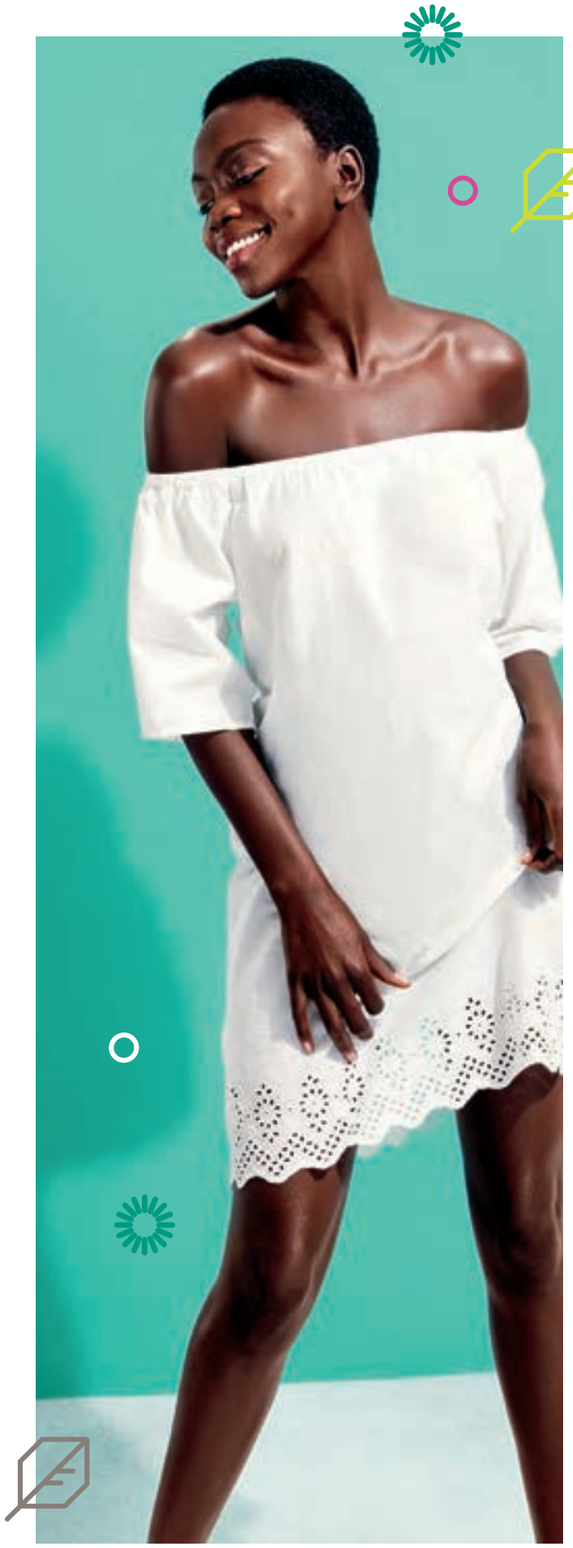
skin cocooning and cushioning

INCI: Water (and) Glycerin (and) Hydrolyzed Cottonseed Extract (and) Trehalose (and) Glucose (and) Fructose (and) Sucrose (and) Inositol

preservative system: sodium benzoate

recommended use level: 0.5 to 1.5% (clinically tested at 1.5%)

- may help increase the resistance of skin cells during osmotic shock *(in vitro)*
- may help limit stress-induced DNA damage *(in vitro)*
- contributes to improvement of skin hydration *(in vivo)*



harmoniance™ biofunctional

extracted with Zeta Fraction™ Technology, a Sacred Lotus extract for total anti-age control, face and body

INCI: Nelumbo Nucifera (Lotus) Extract

preservative system: potassium sorbate, sodium benzoate, sodium metabisulfite

recommended use level: 0.5 to 1% (clinically tested at 0.5%)

skin aging and dermis:

- increased collagen I expression (+38% *in vitro*)
- inhibition of elastase activity (–25% *in vitro*)
- improved skin softness (+25% *in vivo*)
- reduction in appearance of wrinkles (–20% *in vivo*)

antioxidant properties:

- ORAC (Oxygen Radical Absorbance Capacity): 1 g Lotus has antioxidant potency equal to 30.6 mg of (R)-Trolox methyl ether
- DPPH (2,2-diphenyl-1-picrylhydrazyl) quenching: 1 g Lotus quenches 25.8 mg DPPH

skin hydration and barrier function:

- increased filaggrin expression (+65% *ex vivo*)
- increased hyalyronic acid expression (+48% *ex vivo*)
- increased aquaporin 3 (AQP3) expression (+22% *ex vivo*)
- increased barried function (+85% *ex vivo*)
- increased skin hydration (+14% *in vivo*)
- decreased TEWL (–8% *in vivo*)

skin tone:

- melanin control (-80% *ex vivo* human skin)
- anti-inflammatory activity on PGE2 (–50%)

body contour and cellulite skin:

- increased glycerol release (+73% *in vitro*)
- drainage and body contouring (–12 mm on thigh *in vivo*)

ucpeptide™ v biofunctional

innovative peptide inspired by the science of uncoupling proteins associated with heat production

INCI: Water (and) Butylene Glycol (and) Pentapeptide-25

preservative system: no preservative

recommended use level: 1%

- synthetic peptide biomimetic of UCPs (uncoupling proteins)
- helps limit the storage of lipids *(in vitro)*
- reduces the appearance of vacuoles in adipocytes *(in vitro)*

vital et™ biofunctional

multifunctional vitamin E derivative for skin multilevel rescue against various stresses

INCI: Disodium Lauriminodipropionate Tocopheryl Phosphates

preservative system: phenoxyethanol, dehydroacetic acid, benzoic acid.

recommended use level: 1% to 7.5% (clinically tested at 1.25%, 2.5%, 5% and 7.5%)

sun defenses

- prepares skin for sun exposure: visibly reduces UV-induced redness with a pre-treatment (clinical)
- sunburn rescue and after-sun recovery
- photoaging: decreases sunburn cell formation

age-defying rescue

- inflammaging: helps skin fight low chronic inflammation induced by chronic UV stress leading to premature aging in a 3D model
- senescence: helps maintain collagen production in a senescent environment *ex vivo*
- DNA damage: helps limit cyclobutane pyrimidine dimer (CPD) formation under UV stress

soothing

- acne-related stress:
  - visible decrease in spot redness and shape in 6 days
  - helps decrease acne-related inflammation markers
- shaving and after-shave:
  - visibly helps skin recover after shaving
  - visibly decreases skin discomfort (dryness, redness, burning, itching) after 4 weeks of use

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Ashland™
always solving

vincience™ natural

biofunctionals with a natural profile, sustainable sourcing profile and/or COSMOS* validation

achromaxyl™ isr biofunctional

skin brightening botanical extract with clinically proven efficacy on the appearance of skin color

INCI: Water (and) Glycerin (and) Hydrolyzed Brassica Napus Seedcake Extract

preservative system: sodium benzoate, potassium sorbate

COSMOS* validated

recommended use level: 1 to 3% (clinically tested at 3%)

actopontine™ biofunctional

bioinspired by nature to optimize skin matrix architecture

INCI: Water (and) Butylene Glycol (and) sh-Hexapeptide-2

preservative system: sodium benzoate

recommended use level: 1% (clinically tested at 1%)

- associated with an *in vitro* increase in proteins critical for building and remodeling the Extracellular Matrix: dermatopontin, collagen I, collagen III, laminin-V, fibronectin and alpha-3 integrin
- shown *in vitro* to enhance proteins involved in cell shape and integrity: paxillin for fibroblasts' shape, and moesin, which is known as a marker of cell longevity and integrity
- for potential enhancement of skin elasticity and density: tropo-elastin and elastin-associated proteins involved in elastin fiber assembly, skin density and fiber orientation that are known to contribute to a youthful appearance

actopontine yst™ biofunctional

bioinspired by nature to optimize skin matrix architecture

INCI: Water (and) Glycerin (and) Hydrolyzed Yeast Protein

preservative system: sodium benzoate

COSMOS* validated

recommended use level: 1%

- associated with results *in vitro*/*ex vivo* hyaluronic acid expression *(ex vivo)*
- linked with water filling and renewal effects
- targets water channeling control and water sealing
- improved hydration contributes to preserve cell shape and cohesion during stress
- maintains skin's natural expression of proteins linked with epidermal differentiation and *stratum corneum* plasticity
- increases skin hydration and perception of skin glow *(in vivo)*

blumilight™ biofunctional

premium cocoa peptides for blue light pollution and digital aging

INCI: Water (and) Butylene Glycol (and) Theobroma Cacao (Cocoa) Seed Extract

preservative system: no preservative

COSMOS* validated

recommended use level: 1% (clinically tested at 1%)

- decrease in Reactive Oxygen Species during blue light stress *(in vitro)*
- maintenance of opsin photoreceptors during blue light stress *(in vitro)*
- increase in collagen1, fibrillin-1 and syndecan-4 *(in vitro, ex vivo)*
- visible improvement of elastin fibers network *(ex vivo)*
- improvement of skin elasticity *(in vivo)*
- visible improvement in appearance of skin wrinkles *(in vivo)*

cb2-skin™ biofunctional

capturing the "boho chic" trend, cb2-skin biofunctional is a patchouli-derived cb2 activator associated with skin calming, soothing benefits and greater skin comfort when skin is exposed to stress

INCI (proposed): Octyldodecanol (and) Pogostemon Cablin Leaf Extract

preservative system: no preservative

COSMOS* validated

recommended use level: 0.3 -1% (clinically tested at 1%)

- derived from premium patchouli
- from farm-to-skin; sustainable sourcing in Colombia with full traceability
- provides calming, relaxing and age-defying skin benefits
- globally compliant, not based on controversial cannabis derivatives
- conveys a strong image of luxury and beauty

chronogen™ biofunctional

innovative anti-aging tetrapeptide, designed using advanced molecular biology and inspired by epigenetic science

INCI: Water (and) Butylene Glycol (and) Tetrapeptide-26

preservative system: phenoxyethanol, sodium benzoate

recommended use level: 1% (clinically tested at 1%)

- associated with a maintenance of expression of CLOCK, BMAL1 and PER1 *(in vitro, ex vivo)*
- associated with a decrease of induced sun burn cells
- *in vitro* results show repair of UV damage

chronogen™ yst biofunctional

one of the first biofunctional ingredients inspired by clock genes, chronogen™ yst biofunctional is designed to provide a cosmetic solution to the deleterious effects of social jetlag on the skin

INCI (proposed): Water (and) Glycerin (and) Hydrolyzed Yeast Protein

preservative system: sodium benzoate

COSMOS* validated

recommended use level: 1% (clinically tested at 1%)

- associated with a maintenance of expression of CLOCK, BMAL1 and PER1 *(in vitro)*
- associated with a decrease of induced sun burn cells *(ex vivo)*
- age-defying approach to help strengthen the skin's capabilities for protection and self-regeneration

d'orientine™ s biofunctional

date palm kernel extract with clinically proven properties that can reduce the appearance of wrinkles and helps protect skin from environmental sources of aging and wrinkling

INCI: Caprylic/Capric Triglyceride (and) Phoenix Dactylifera (Date) Seed Extract

preservative system: no preservative

COSMOS* validated

recommended use level: 1 to 2.5% (clinically tested at 2.5%)

- decreases the appearance of skin wrinkles rapidly and significantly slows the visible effects of aging better than DHEA on *ex vivo* skin
- associated with increase of type I collagen synthesis on *ex vivo* skin
- improves the natural defense mechanisms against oxidative stress (SOD and catalase) *(in vitro)*
- reduces protein carbonylation *(in vitro)*
- decreases lipid peroxidation *(in vitro)*

ederline™ s biofunctional

apple seed extract with clinically proven wrinkle reduction properties that helps to rejuvenate aged skin.

INCI: Hexyldecanol (and) Butylene Glycol (and) Pyrus Malus (Apple) Seed Extract

preservative system: no preservative

recommended use level: 1 to 3% (clinically tested at 2.5%)

- rapidly and significantly decreases appearance of skin wrinkles
- associated with an increase collagen synthesis *(in vivo)*

elixiance™ biofunctional

natural and sustainable Peruvian *Schinus molle* extract with pollution-shielding, skin-purifying and age-perfecting benefits

INCI: Propanediol (and) Water (and) *Schinus molle* Extract

INCI: Propanediol (and) Water (and) Bioflavonoids

preservative system: no preservative

COSMOS* validated

recommended use level: 1 to 1.5%

- antioxidant: *Schinus molle* leaf extract is known to have antioxidant properties
- a significant cell protection against air pollution PM2.5 and PM10 *(in vitro)*
- a strengthening of the skin barrier *(in vitro, ex vivo)*
- oil control and pore refining *(in vivo)*
- a fresher, younger-looking skin with less visible wrinkles *(in vivo)*

harmoniance™ biofunctional

extracted with Zeta Fraction™ Technology, a Sacred Lotus extract for total anti-age control, face and body

INCI: Nelumbo Nucifera (Lotus) Extract

preservative system: potassium sorbate, sodium benzoate, sodium metabisulfite

recommended use level: 0.5 to 1% (clinically tested at 0.5%)

skin aging and dermis:

- increased collagen I expression (+38% *in vitro*)
- inhibition of elastase activity (–25% *in vitro*)
- improved skin softness (+25% *in vivo*)
- reduction in appearance of wrinkles (–20% *in vivo*)

antioxidant properties:

- ORAC (Oxygen Radical Absorbance Capacity): 1 g Lotus has antioxidant potency equal to 30.6 mg of (R)-Trolox methyl ether
- DPPH (2,2-diphenyl-1-picrylhydrazyl) quenching: 1 g Lotus quenches 25.8 mg DPPH

skin hydration and barrier function:

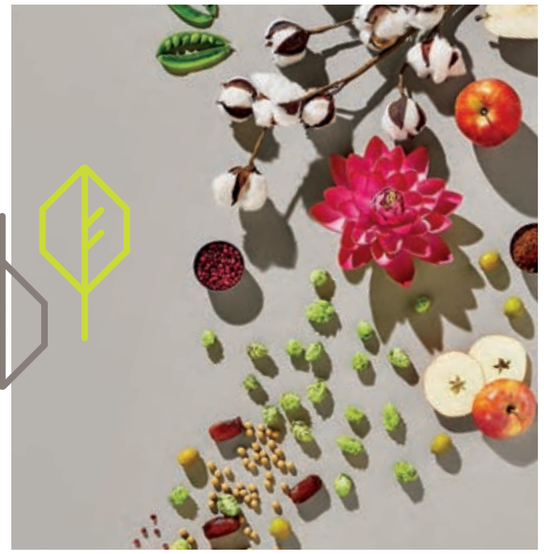
- increased filaggrin expression (+65% *ex vivo*)
- increased hyalyronic acid expression (+48% *ex vivo*)
- increased aquaporin 3 (AQP3) expression (+22% *ex vivo*)
- increased barried function (+85% *ex vivo*)
- increased skin hydration (+14% *in vivo*)
- decreased TEWL (–8% *in vivo*)

skin tone:

- melanin control (–80% *ex vivo* human skin)
- anti-inflammatory activity on PGE2 (–50%)

body contour and cellulite skin:

- increased glycerol release (+73% *in vitro*)
- drainage and body contouring (–12 mm on thigh *in vivo*)



heliostatine isr™ biofunctional

botanical extract with clinically proven tan enhancement effect for a healthy glow and radiance

INCI: Water (and) Glycerin (and) Pisum Sativum (Pea) Extract

preservative system: sodium benzoate

COSMOS* validated

recommended use level:
1 to 1.5% (clinically tested at 1.5%)

- helps maintain sun tan (17 volunteers) *(in vivo)*

infini'tea™ biofunctional

ultra fresh tea serum for a peaceful and balanced skin inspired by neurocosmetics and yoga

INCI: Camellia Sinensis Leaf Extract

preservative system: no preservative

COSMOS* validated

- neurocosmetic solution to calm and sooth the skin
- cosmetic solution inspired by yoga, sun do and meditation
- first detox concept for monosodium glutamate excitotoxin
- helps limit the damage of UV
- helps decrease ex vivo the expression of melanin
- reduces the appearance of redness and fine lines; increases skin luminosity
- fresh, natural, pure and minimally processed tea serum from patented zeta fraction™ technology
- unique composition with superior level of L-theanine and antioxidants compared to green and black tea
- tea leaves sourced and manufactured utilizing low environmental impact practices

lipigenine™ biofunctional

advancing physical and biochemical skin barrier functions

INCI: Water (and) Glycerin (and) Linum Usitatissimum (Linseed) Seed Extract

preservative system: phenoxyethanol, sodium benzoate

recommended use level: 1 to 1.5% (clinically tested at 1.5%)

- may help skin enhance natural lipid synthesis within the *stratum corneum*
- may help skin with natural lipidic homeostasis and recovery following stress
- enhances *in vitro* and *ex vivo* antimicrobial peptides (cathelicidin and beta defensins)
- may help normalize microflora balance on the surface of skin
- supports a skin soothing effect and may limit the appearance of skin sensitivity

nightessense™ biofunctional

premium true lavender flower extract from Provence mountains for skin night-time reset

INCI: Butylene Glycol (and) Water (and) Lavandula Angustifolia (Lavender) Flower Extract

preservative system: preservative free

COSMOS* validated

recommended use level: 0.5% to 1% (clinically tested at 1%)

- for the first time, a biofunctional designed to target skin needs at night
- optimize skin's nighttime processes, the noctology™, the biology of the skin at night associated with night repair, cleanse and renew
- helps skin repair and clean damages overnight
  – limit day light-induced oxidation
  – repair dark DNA damage (dark sun effect)
- boost essential nocturnal molecules: timezyme and melatonin and nocturnin
- overnight skin reset evaluation on Caucasian and Asian skin
- visible effect night worker's skin
- skin looks rested, renewed, illuminated with less dark circles after 28 days of application of a cream containing nightessence™ biofunctional at 1%

orsirtine™ isr biofunctional

a breakthrough anti-aging technology, inspired by the science of sirtuins and skin longevity; positioned for anti-aging facial products, it helps promote long-term skin benefits and protection from the effects of exposure to certain environmental stressors

INCI: Water (and) Glycerin (and) Oryza Sativa (Rice) Extract

preservative system: potassium sorbate, sodium benzoate

COSMOS* validated

recommended use level: 1% (clinically tested at 3%)

- *in vitro* lab tests demonstrate a decrease in cell senescence
- *in vitro* lab tests demonstrate extended longevity of aged keratinocytes and fibroblasts *(in vitro)*
- *in vitro* studies show SIRT1 content increased in the skin more than polyphenols
- skin protection and repair were demonstrated *in vitro* after UV and oxidative damage
- *ex vivo* studies demonstrate an improvement in the appearance of skin exposed or not exposed to UV

phytoneomatrix™ biofunctional

inspired by wound healing science and stratifin epidermal biomessenger that is linked with dermal remodeling and wrinkle repair

INCI: Water (and) Glycerin (and) Hydrolyzed Soybean Extract

preservative system: sodium benzoate at 0.5%

COSMOS* validated

recommended use level: 1% (clinically tested at 1%)

biomessaging technology:

- enhances epidermal stratifin expression to help skin optimize epidermal-dermal cross-talk *(in vitro, ex vivo)*

matrix remodeling:

- ECM turnover balance through skin's physiological and normal MMPs expression for aged collagen degradation in parallel with neo-collagen synthesis *(in vitro)*
- new Matrix production: pro-collagen, collagen I, collagen III, hyaluronic acid *(in vitro, ex vivo)*
- dermal reorganization: helps skin improve fibroblast strength and optimize matrix contraction *(in vitro)*
- clinical study: visible decrease in the appearance of wrinkles *(in vivo)*

phytoRNx baobab™ biofunctional

baobab seed extract rich in plant small RNAs and associated with improved epigenetic homeostasis in aging skin

INCI: Water (and) Glycerin (and) Hydrolyzed Adansonia Digitata Extract

preservative system: phenoxyethanol

recommended use level: 1 to 3% (clinically tested at 1%)

PhytoRNx Baobab is associated with age defying attributes and improved skin homeostasis:

- increased collagen I and collagen III expression *(ex vivo)*
- improved expression of Drosha and Dicer in senescent cells *(in vitro)*
- limited increase in ß-galactosidase senescence marker activity following Dicer silencing *(in vitro)*
- significant reduction of the appearance of wrinkles on volunteers *(in vivo)*

PhytoRNx Baobab is associated with long-lasting skin moisturization:

- increased expression of hyaluronic acid *(ex vivo)*
- increased expression of hyaluronan synthases (HAS2) *(in vitro)*
- increased skin hydration (skin capacitance) 24 hours after application *(in vivo)*

prolixir s20™ biofunctional

designed to help skin age gracefully

INCI: Water (and) Butylene Glycol (and) Dimer Tripeptide-43

preservative system: phenoxyethanol, sodium benzoate

recommended use level: 1% (clinically tested at 1%)

- helps detoxify young and stressed skin
- helps maintain natural defense of older skin
- provides visible benefits by decreasing the appearance of skin wrinkles and improving skin tonicity and beauty

prolixir-ice™ biofunctional

designed to help skin age gracefully

INCI: Water (and) Glycerin (and) Hydrolyzed Rice Protein

preservative system: sodium benzoate

COSMOS* validated

recommended use level: 1%

- helps detoxify young and stressed skin
- helps maintain natural defense of older skin
- provides visible benefits by decreasing the appearance of skin wrinkles and improving skin tonicity and beauty

seastem™ biofunctional

marine extract from giant kelp algae with Zeta Fraction™ Technology to combat the skin effects of pollution (diesel ultrafine particles) on epidermal stem cells and preserve the skin's self-regenerating and protecting properties.

INCI: Macrocystis Pyrifera Extract

preservative system: sodium benzoate, potassium sorbate

COSMOS* validated

recommended use level: 0.5 to 1% (clinically tested at 1%)

sustainable sourcing: eco-harvested giant kelp from the wild Pacific coast of California

sustainable technology: proprietary Zeta Fraction™ Technology

age-defying skin benefits: protection and self-regeneration

helps maintain epidermal stemness potential under diesel UFP pollution stress:

- **keratin 15:** anchoring stem cells to the niche *(ex vivo)*
- **SOX9:** maintaining stemness potential *(in vitro)*
- inspired by research in regenerative medicine and the amphibian, the axolotl; model for unlimited regeneration and scar-free healing
- associated with an increase in skin's capital to self-repair and protection of microbiome from sun damage
- **P63:** maintaining stem cells in place (*in vitro)*
- mitigates free radicals induced by nanoparticles (*in vitro*)

maintains skin regeneration potential and vitality under pollution stress:

- helps recovery from artificial wound *(in vitro)*
- helps skin clear away 50% more nanoparticles *(ex vivo)*
- improves by 40% epidermal thickness under UFP stress *(ex vivo)*
- clinical study: improved skin elasticity *(in vivo)*

protects skin barrier function as to nanoparticle pollutants and improves skin hydration:

- maintains loricrin levels under UFP stress, RHE
- improves NMF pathway at 1% *(ex vivo)*
- increases hyaluronic acid synthesis by 42% *(ex vivo)*
- clinical study: Improves skin hydration by 56% *(in vivo)*

serenityl™ biofunctional

condurango extract for skin detoxination, oxygenation and wellness

INCI: Marsdenia Cundurango Bark Extract (and) Caprylic/Capric Triglycerides

preservative system: no preservative

COSMOS* validated

recommended use level: 1% (clinically tested at 1%)

skin detoxination:

- increased TAS2R38 bitter taste receptor *(+25% ex vivo)* and chemerin antimicrobial agent *(+25% ex vivo)*, both associated with skin detoxination from certain environmental toxins
- increased autophagy process (+28% LC3 and +16% LAMP2) associated with the elimination of internal toxins
- increased skin barrier function (–10% TEWL)

skin oxygenation:

- increased COX IV involved in cell oxygenation *(+36% ex vivo)*
- improved skin rosiness *(+3% in vivo)*

skin wellness:

- oxytocin-like benefit: reduced IL-6Rß induced by stress, *(–14%, ex vivo)*
- reduced skin discomfort after stinging text *(–21% in vivo)*

healthier look and feel-looking:

- less visible fine lines *(–36% in vivo)*
- improved skin comfort (+80% of the volunteers)

suberlift™ biofunctional

a clinically proven oil soluble botanical instant smoothing tensor that helps provide lift and firming to skin

INCI: Dipropylene Glycol (and) Quercus Suber Bark Extract

preservative system: no preservative

recommended use level: 3% (clinically tested at 3%)

- cork oak (quercus suber) extract rich in suberin
- displays an instant smoothing, lifting and tensor effect
- helps improve skin roughness

suprastim™ biofunctional

Amazonian superfruit extract that mitigates the visible signs of skin fatigue, imparting a healthy glow

INCI: Water (and) Propanediol (and) Myrciaria Dubia Fruit Extract

preservative system: preservative free

COSMOS* validated

recommended use level: 1% (clinically tested at 1%)

helps maintain cellular energy flows in 3D models of skin fatigue:

- helps limit the drop in PFK2 (key enzyme for glycolysis), which can be induced by skin fatigue
- helps limit the drop in energy (ATP) induced by skin fatigue
- associated with better energy storage (creatine kinase)
- boosts the synthesis of collagen, which is associated with skin firmness

helps reduce the visible signs of stress:

- helps decrease the 11ß-HSD1 enzyme associated with lower cortisol levels

helps combat the visible signs of skin fatigue (*in vivo*):

- increased luminosity in the area below the eyes

survixyl is™ biofunctional

inspired by the science of stem cell biology and the potential benefits of maintaining the Stemness Recovery Complex™

INCI: Water (and) Butylene Glycol (and) Pentapeptide-31

preservative system: sodium benzoate

recommended use level: 0.5 to 1.5% (clinically tested at 1%)

- helps boost the Stemness Recovery Complex™ *(in vitro, ex vivo)*
- helps preserve cells under conditions of stress *(in vitro, ex vivo, in vivo)*
- *in vivo* data from clinical studies demonstrate improved appearance in skin and self-rejuvenation

survixyl rz™ biofunctional

inspired by the science of stem cell biology and the potential benefits of maintaining the Stemness Recovery Complex™

INCI: Water (and) Glycerin (and) Hydrolyzed Rice Protein

preservative system: sodium benzoate

COSMOS* validated

recommended use level: 0.5 to 1.5%

- helps boost the Stemness Recovery Complex™ *(in vitro, ex vivo)*
- helps preserve cells under conditions of stress *(in vitro, ex vivo, in vivo)*
- *in vivo* data from clinical studies demonstrate improved appearance in skin and self-rejuvenation

rosaliss™ biofunctional

haute couture for your skin – rose of "100 petals" from Provence for a perfect skin

INCI: Water (and) Butylene Glycol (and) Rosa Centifolia Extract

preservative system: no preservative

recommended use level: 1%

- a 100% natural extract of Rosa centifolia flower sourced locally in Provence (south of France)
- uses Ashland's proprietary and patented Plant Small RNA Technology (PSRTM), a novel green chemistry for superior efficacy.
- inspired by scientific research in regenerative medicine to help skin achieve a flawless self-repair.

Rosaliss is associated with skin perfecting benefits for age-marked and acne-damaged skin:

- helps skin increase its capital to self-repair (in vitro, ex vivo)
- preserve microbiome from sun damage with a prebiotic and postbiotic effect (in vitro)
- skin looks brighter & evened: skin texture appears smoother (clinical study)
- skin is more hydrated and looks firmer (clinical study)
- skin looks repaired: imperfections such as blemishes appear less apparent (clinical study)

telosense™ biofunctional

inspired by the science of telomeres and anti-aging

INCI: Water (and) Glycerin (and) Hydrolyzed Yeast Protein (and) Hydrolyzed Soy Protein

preservative system: sodium benzoate

COSMOS* validated

recommended use level: 0.5 to 1% (clinically tested at 1%)

- associated with an increase of an important element of the Telomere Sheltering Complex™ *(in vitro)*
- associated with an increase of lamin A expression in aging cells; lamins are implicated in nuclear DNA stability and gene expression *(in vitro)*
- associated with a reduction in the accumulation of cellular aging markers, suggesting cellular senescence is delayed and cell longevity is improved *(in vitro)*
- helps improve the appearance of the skin and reduce the appearance of wrinkles

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new biofunctional portfolio structure

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