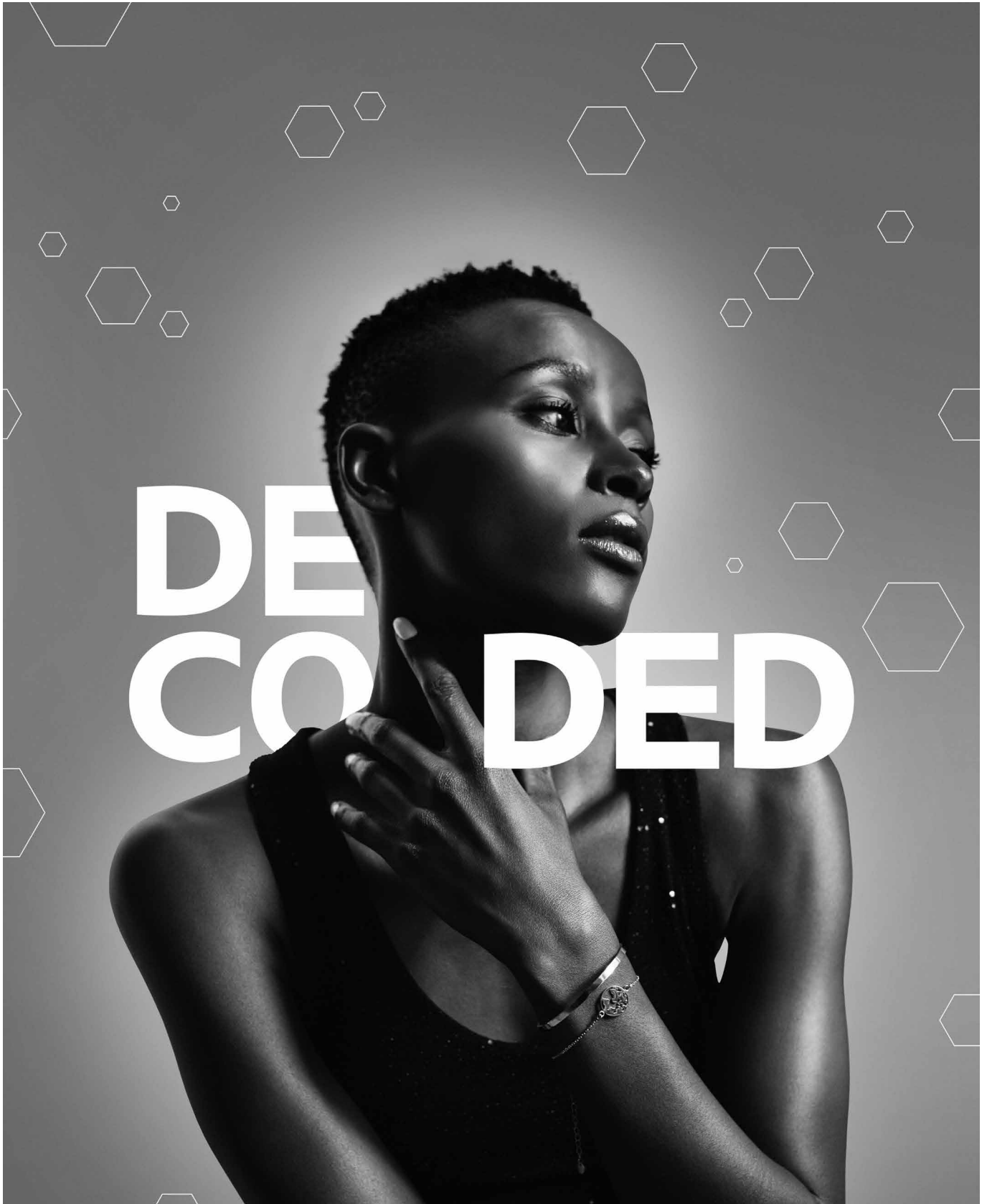


# CERAMIDES AND SPHINGOLIPIDS

Decoding ceramides – the secret to beautiful hair and skin

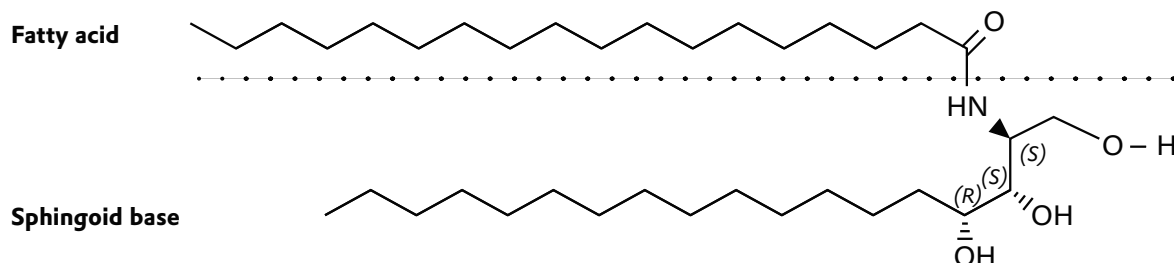


## WHAT EXACTLY ARE CERAMIDES?

Ceramides, a special class of sphingolipids, have been found to be key components in the outermost layer of the skin and hair. They play an essential role in maintaining and structuring the lipid barrier.

## CERAMIDES STRUCTURE

Ceramides are waxy lipid molecules from the sphingolipids family: **CERA** (wax) & **AMIDE** (amide bond)

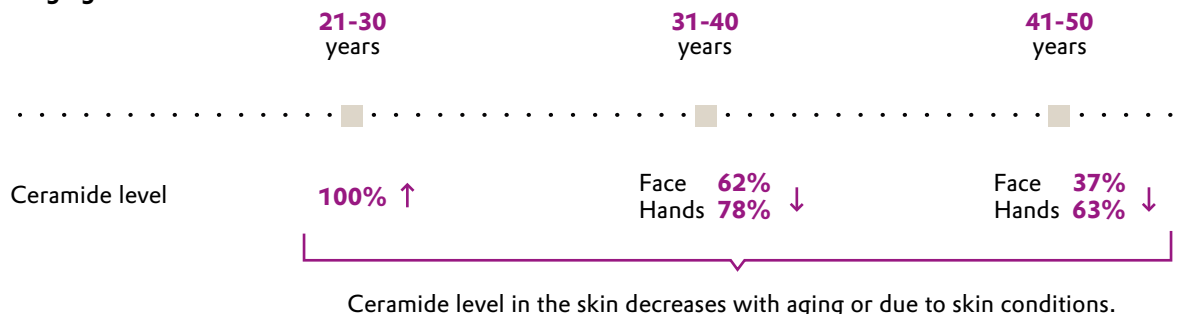


## LET'S LOOK AT THE CASE OF CERAMIDES

- They are lipids present throughout our body, representing **47%** of the composition of our body's largest organ, the skin, and **7%** of our hair.
- On the skin, it is present in the stratum corneum, in the outermost membrane of the skin (epidermis) and is an essential part of the barrier between our body and the environment.
- In the hair it composes the cell membrane complex (CMC), an important layer of the strands whose function is to unite the cell membranes of the cuticle and cortex.
- But people still don't know this, just as they don't know that everyone is subject to the ceramide loss process.

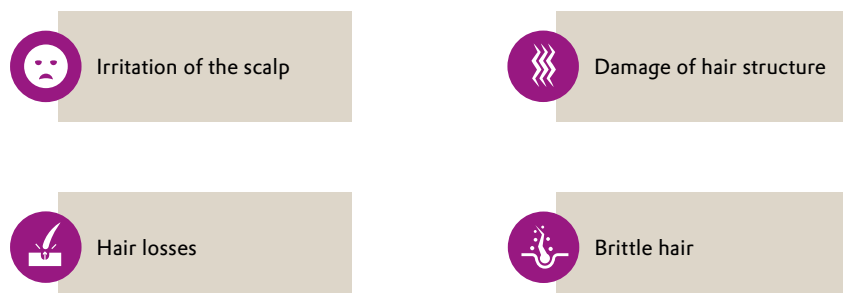
## LOSSES ARE ABOUT TIME AND ENVIROMENT

### • Aging Skin

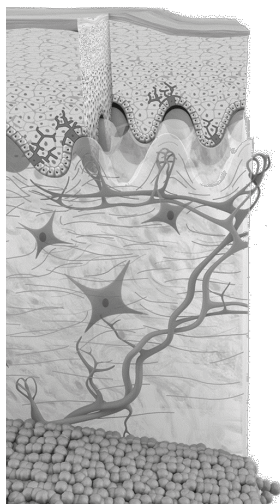


- Skin Microbiome Dysbiosis
  - UV, blue light, ROS, and pollution
  - Chemicals (e.g. sanitizers)
- these factors contribute to the loss of ceramides in the skin barrier

## CAUSING CONSIDERABLE NEGATIVE RESULTS FOR HAIR



## CAUSING CONSIDERABLE NEGATIVE RESULTS FOR THE SKIN



### Non-clinical Conditions

Dryness

Itchiness

Redness & Irritation

Blemishes

Loss of elasticity



### Clinical Conditions

Ichthyosis

Psoriasis

Acne (vulgaris)

Atopic dermatitis

Surfactant-induced dermatitis

## REPLENISH CERAMIDE AT ANY AGE

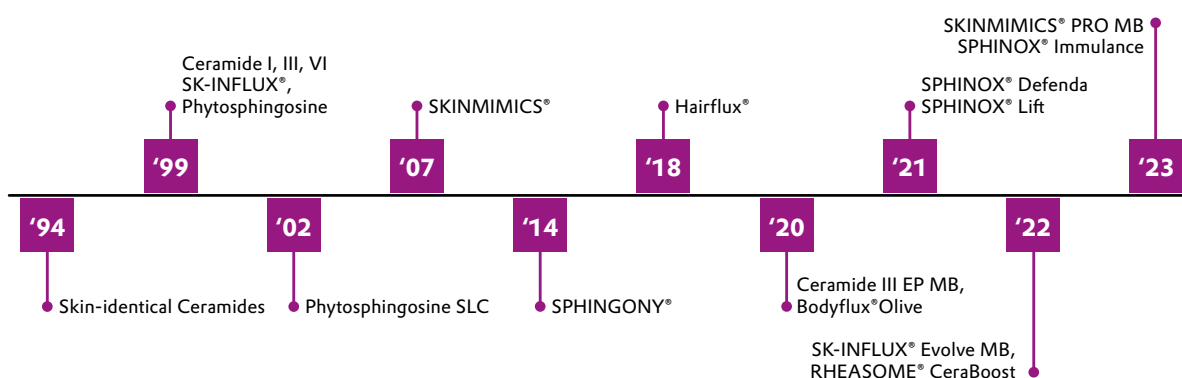
- The point is that it is possible to restore the ceramide that we lose naturally and by external factors at any age.
- We can restore it by applying products with ceramide on the skin, making the replacement "from the outside in". Recomposing the skin barrier structure, repairing its protective function.
- We can also restore ceramides from "inside out" by helping our skin in its production process. We can provide "building blocks" to produce ceramides (with the use of precursors) or use ceramides that "signalize" to the skin that it needs to produce more ceramides, further stimulating its natural production.

From outside to inside

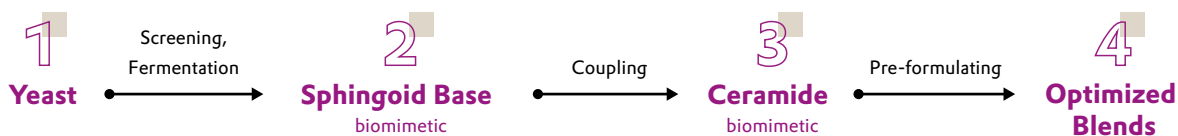


From inside to outside

## WE KNOW CERAMIDES ... AND WE CAN PROVE OUR EXPERTISE



## EVONIK'S PRODUCTION PROCESS



## WHAT'S SO SPECIAL ABOUT EVONIK'S CERAMIDES?

### Our Ceramides are skin-identical

- Patented biotechnological production process based on the fermentation of a non-conventional yeast extracted from tonka beans
- Our ceramides have the same stereochemical conformation as the ceramides in our skin
- Our ceramides are truly skin-identical



## EMPOWER THE BODY'S NATURAL SHIELD WITH CERAMIDES

### BARRIER ACTION

From outside to inside  
**"Repair and Restore"**

### DEEP ACTION

From inside to outside  
**"Rebalance and Regenerate"**

### DUAL ACTION

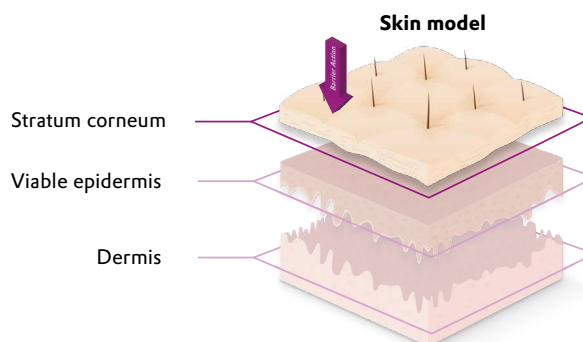
Improved Barrier from within  
**"Reboost and Replenish"**



## MODES OF ACTION OF OUR CERAMIDES SOLUTIONS

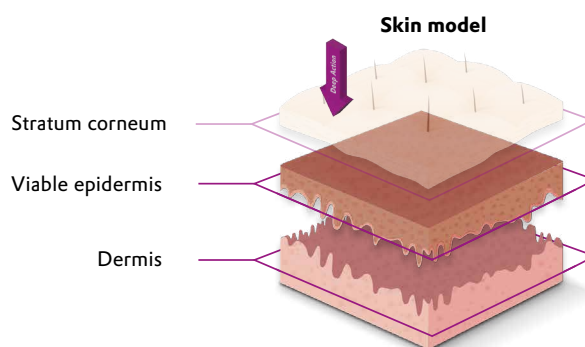
### BARRIER ACTION: FROM OUTSIDE TO INSIDE

Barrier acting Ceramides are the first line of protection for skin and hair.



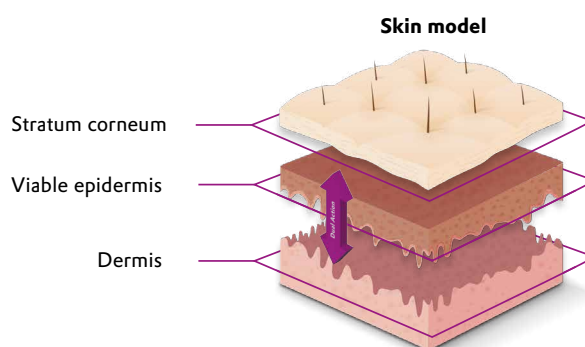
## DEEP ACTION: FROM INSIDE TO OUTSIDE




















Bioactive Ceramides and Sphingolipids are transported to the relevant point of action in the inner skin barrier and thanks to their signaling ability they regulate multiple pathways: cell growth, differentiation.





## DUAL ACTION: IMPROVED BARRIER FROM WITHIN


A smart design paves the way to double function, from inside and outside.





Product	Mode of Action		Claim
<b>SK-INFLUX® Evolve MB</b>	Barrier Action	Next generation of SK-INFLUX® system solutions, the known Ceramide efficacy meets a modern multi-lamellar emulsion system. Ideal for sensitive, dry and aging skin.	  
<b>SK-INFLUX® MB &amp; SK-INFLUX® V MB</b>	Barrier Action	Advanced Ceramide systems of skin identical ceramides, free fatty acids and cholesterol. Perfectly mimics the natural skin lipid barrier resulting in regeneration of skin barrier	  
<b>Ceramide III &amp; IIIB</b>	Barrier Action	Build a protective layer that keep the moisture in the skin and plump it up	  
<b>Ceramide III EP MB</b>	Barrier Action	Easy-to-process Ceramide NP blend to support the renewal of the skin's natural protective layer	  
<b>Hairflux®</b>	Barrier Action	Multifunctional active complex with the potential to calm down irritated scalp and repair damaged hair	
<b>Bodyflux® Olive</b>	Barrier Action	Ceramide complex derived from organic olive oil improving epidermal moisturization	 
<b>SPHINOX® Defenda</b>	Deep Action	Unique derivative of the naturally occurring phytosphingosine, it protects the skin from UV-induced DNA damage, while fighting environmental aggressions, accelerating skin regeneration and re-balancing the skin tone after summer stress	   


 Age-defying

 Skin defense


 Moisturization


 Sensitive skin


 Barrier fortify

 Skin Evenness


 Rebalancing / purifying


 Body shaping


 Hair care / Scalp vitality

 Nourishing

Product	Mode of Action	Claim
<b>SPHINOX® Lift</b>	Deep Action	Short chain Ceramide acting as a multilayer skin activator. Reduces skin sagging and flattens wrinkle depth by promoting cellular communication
<b>Phytosphingosine &amp; Phytosphingosine HCl</b>	Deep Action	Sphingoid base naturally present in the skin. Reduces the signs of acne, redness and inflamed skin
<b>Phytosphingosine SLC</b>	Deep Action	Unique designer sphingolipid. Restores photo-damaged skin and reduces the appearance of pore size
<b>RHEASOME® CeraBoost</b>	Dual Action	Innovative skin delivery system based on biotechnologically-derived materials with Ceramide NP, Phytosphingosine and vegetable-based Cholesterol. Boosting the skin's own Ceramide synthesis and replenishing skin lipids from within
<b>SPHINGONY®</b>	Dual Action	Sphingoid base naturally present in the skin. Prevents hair loss by balancing the hair life cycle, strengthens the hair follicle and improves scalp health by balancing the micro flora of the scalp
<b>SKINMIMICS® PRO MB</b> <b>New</b>	Dual Action	SKINMIMICS® PRO MB is our new system solution for healthy aging. It is a synergistic and powerful combination of 7 different Ceramides embedded in a modern and globally applicable emulsifier system, without listed preservatives. Thanks to the combination of skin identical long chain Ceramides and bioactive Sphingolipids, this product is the perfect solution for aging skin.
<b>SPHINOX® Immulance</b> <b>New</b>	Dual Action	SPHINOX® Immulance is an innovative and unique bioactive Ceramide based on uneven fatty acids that are known for its various health benefits as food supplements. In combination with Phytosphingosine as a base, it positively regulates the skin's own anti-microbial defense and protects the skin by strengthening the skin's immune barrier.

 Age-defying

 Skin defense


 Moisturization

 Sensitive skin


 Barrier fortify

 Skin Evenness

 Rebalancing / purifying

 Body shaping

 Hair care / Scalp vitality

 Nourishing

**Evonik Operations GmbH**  
personal-care@evonik.com  
www.evonik.com/personal-care