ZINBLOQ

EXPOSOME HAIR PROTECTION

ASSESSA

INNOVATION FOR A GREENER WORLD

HAIR AND NATURAL DEFENSES

Unlike skin, hair has no natural defenses against free radicals, making it vulnerable to oxidative damage like UV radiation, urban pollution, cigarette smoke, temperature and moisture. Aging hair is also vulnerable to oxidative stress and structural changes like unprotected cuticles, compromised lipid surfaces, defenseless cortex, lack of shine and difficulty combing.

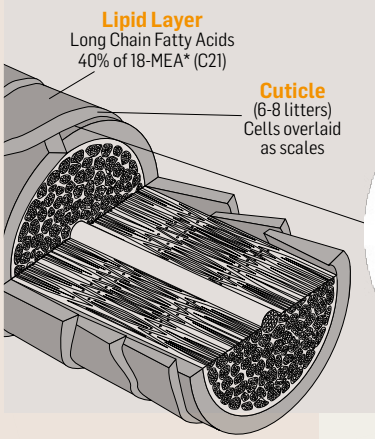
WHAT IS EXPOSOME?

The term exposome describes the totality of exposures to which an individual is subjected from conception to death.
It includes both external and internal factors, as well as the human body's response to these factors.

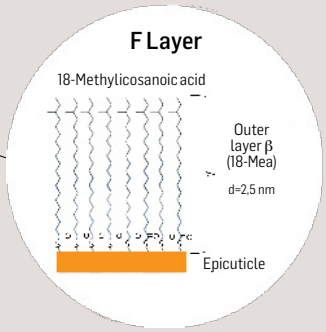
WHAT IS ZINBLOQ?

ZinBloq protects hair from environmental damage by preserving the cuticle and reducing oxidative stress for stronger, healthier hair.

- Keeps hair shiny
- Improves combability
- Protects the hair strands from erosion
- Reduces visible signs of aging.



EXPOSOME & HAIR



CUTICLE DAMAGED

- Loss of cortex protection
- Loss of combability and entanglement
- Loss of gloss

MECHANISM OF ACTION
SELECTED RAW MATERIALS

ANTIOXIDANT AND FREE RADICAL SCAVENGER

ZINGIBER OFFICINALE

Zingiber officinale (ginger) is an antioxidant that scavenges free radicals. Numerous bioactive compounds have been identified in ginger, including phenolic and terpene. The phenolics are mainly gingerols and shogaols, which neutralize free radicals that damage hair follicles and strands. Polysaccharides, lipids, organic acids, are also present. By reducing oxidative stress, ginger prevents hair damage and breakage and contributes to stronger hair.

COATING AGENT AND FREE RADICAL SCAVENGER

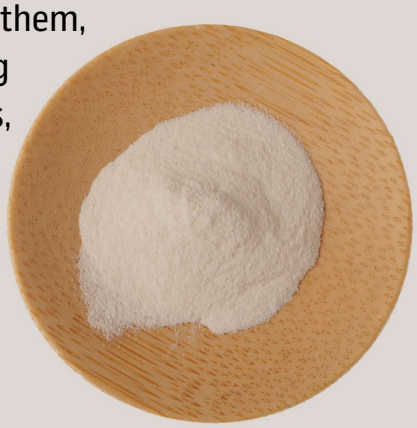
KAPPAPHYCUS ALVAREZII

Kappaphycus alvarezii, as a coating agent, can be defined as a natural shield for hair against the exposome. It forms a protective barrier on the hair shaft, shielding it from environmental stressors like pollution, UV radiation, and harsh chemicals. This barrier helps prevent damage and breakage, preserving the health and integrity of the hair. This protective film can also help strengthen hair, reducing breakage and split ends.

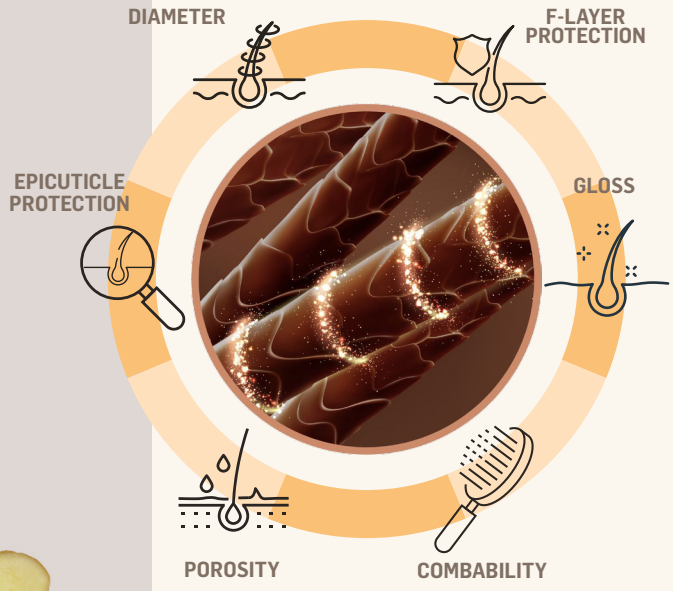
CHELATION AND COATING AGENT

SODIUM ALGINATE

Sodium alginate acts as a chelation agent against hair exposomes by binding to heavy metals and other pollutants present in the environment, trapping them, and preventing them from interacting with the hair. By binding to pollutants, sodium alginate helps detoxify the hair, removing harmful substances that cause damage and dullness. The chelating action protects the hair from environmental stressors.



HAIR CUTICLE SHIELD



UPCYCLING

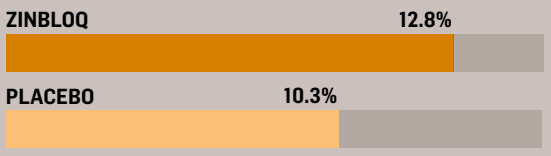
CREATING NEW INGREDIENTS OF BIOMASS WASTE

Assessa has developed a green process to extract valuable molecules from the industrial ginger waste of a juice factory.

PROTOCOL 1
EXPOSOME EXPOSURE

The Ci3000+, Fade-Ometer, and Q-Sun chambers simulated the hair exposome. By replicating sunlight, temperature, humidity, and moisture, these chambers accelerated the effects of environmental factors on hair, providing valuable insights into its resistance to damage. In these chambers, strands of natural Caucasian hair were subjected to wash cycles, treatments with products as described, and UV exposure cycles totaling 100 hours.

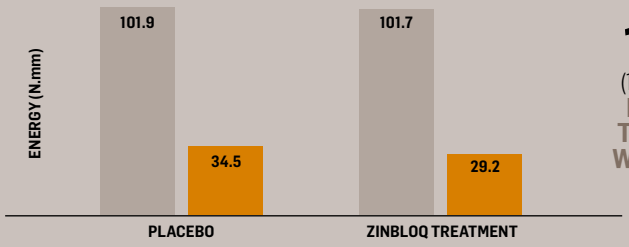
GLOSS
TESTS PERFORMED WITH GLOSSMETER (BYK GARDNER®) EQUIPMENT



INCREASES HAIR SHINE BY UP TO **25%**

SHAMPOO + CONDITIONER PLACEBO + LEAVE ON PLACEBO
SHAMPOO ZINBLOQ 1% + CONDITIONER ZINBLOQ 1% + LEAVE ON ZINBLOQ 2%

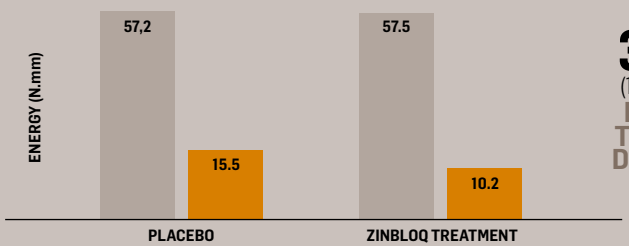
COMBABILITY OF WET HAIR
TESTS CARRIED OUT WITH INSTRON 23-2S DEVICE (BLUEHILL 4.21 SOFTWARE)



15% (1.2 TIMES) EASIER TO COMB WET HAIR

SHAMPOO + CONDITIONER PLACEBO + LEAVE ON PLACEBO
SHAMPOO ZINBLOQ 1% + CONDITIONER ZINBLOQ 1% + LEAVE ON ZINBLOQ 2%

COMBABILITY OF DRY HAIR
TESTS CARRIED OUT WITH INSTRON 23-2S DEVICE (BLUEHILL 4.21 SOFTWARE)



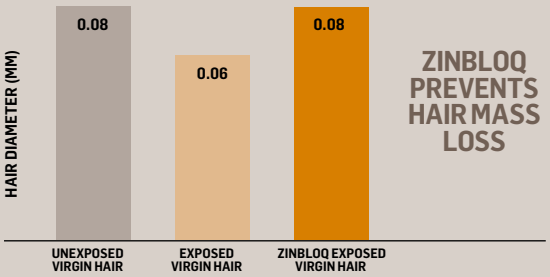
35% (1.5 TIMES) EASIER TO COMB DRY HAIR

SHAMPOO + CONDITIONER PLACEBO + LEAVE ON PLACEBO
SHAMPOO ZINBLOQ 1% + CONDITIONER ZINBLOQ 1% + LEAVE ON ZINBLOQ 2%

PROTOCOL 2
EXPOSOME EXPOSURE

In chambers used to simulate the effects of sunlight and weathering, strands of natural Caucasian hair were subjected to wash cycles, treatments with products as described, and UV exposure cycles totaling 100 hours.

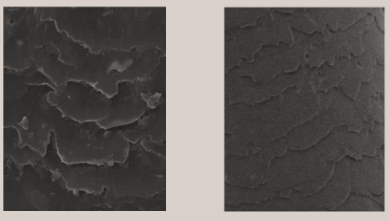
DIAMETER (CAPILLARY INTEGRITY)
TESTS PERFORMED WITH MICROMETER



ZINBLOQ PREVENTS HAIR MASS LOSS

TREATMENT WITH SPRAY LEAVE ON PLACEBO AND SPRAY LEAVE ON ZINBLOQ 2%

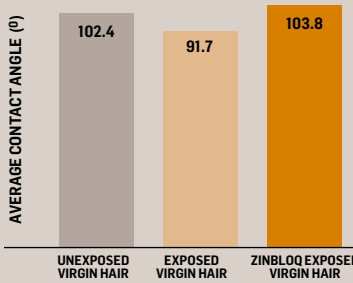
EPICUTICLE PROTECTION
TESTS PERFORMED BY SCANNING ELECTRON MICROSCOPY

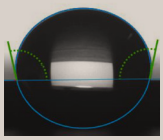


SEM BEST CASES

TREATMENT WITH SPRAY LEAVE ON PLACEBO AND SPRAY LEAVE ON ZINBLOQ 2%

F-LAYER PROTECTION
TESTS PERFORMED WITH GONIOMETER





The hair's contact angle determines its hydrophobicity, with a larger angle indicating a more intact cuticle.

TREATMENT WITH SPRAY LEAVE ON PLACEBO AND SPRAY LEAVE ON ZINBLOQ 2%

ZINBLOQ

EXPOSOME HAIR PROTECTION

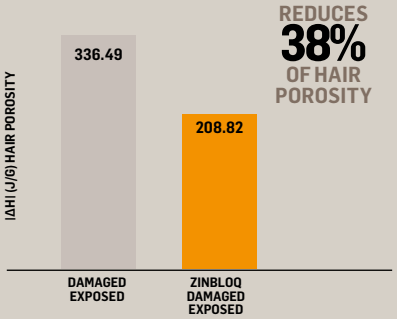
PROTOCOL 3

EXPOSOME EXPOSURE (DAMAGED HAIR)

In chambers used to simulate the effects of sunlight and weathering, strands of damaged Caucasian hair were subjected to wash cycles, and treated with products as described, with UV exposure cycles totaling 100 hours.

DSC POROSITY

TESTS PERFORMED BY DIFFERENTIAL CALORIMETRY SCANNING (DSC)

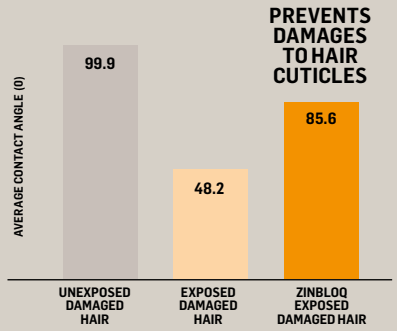


The variation in energy (ΔH) is directly correlated with the water content in the hair fiber, being an indicator of its porosity: the higher the ΔH, the more porous the hair.

TREATMENT
SPRAY LEAVE ON PLACEBO AND SPRAY LEAVE ON ZINBLOQ 2%

F-LAYER PROTECTION

TESTS PERFORMED WITH GONIOMETER



The hair's contact angle determines its hydrophobicity, with a larger angle indicating a more intact cuticle.

TREATMENT
SPRAY LEAVE ON PLACEBO AND SPRAY LEAVE ON ZINBLOQ 2%

ZINBLOQ

"WELL-AGING HAIR"

- PROTECTS HAIR CUTICLE
- MAINTAINS LIPID SURFACE INTEGRITY
- PRESERVES THE CORTEX
- INCREASES HAIR GLOSS
- DETANGLES HAIR

USAGE LEVEL

PRODUCT	(%)
Shampoo	1 to 3
Conditioner	1 to 3
Leave-on	1 to 3
Spray	1 to 3

INCI NAME

Zingiber officinale (Ginger) Root Extract, Kappaphycus Alvarezii Extract, Algin, Sodium Benzoate and Potassium Sorbate.

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