

## Partner search

**Company:** SENAI Innovation Institute For Green Chemistry

**CNPJ:** 03.848.688/0063-55

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### Short Company presentation

(R & D guidelines, international activities, etc.)

Sustainability is a fundamental condition for the competitiveness of today's industry. The SENAI Institute of Innovation for Green Chemistry (S-GC) develops industrial solutions using alternative techniques and renewable raw materials to create more efficient, lower-cost products and processes which reduce or eliminate the use and generation of substances harmful to human health and the environment.

Its Research, Development, and Innovation projects focus on technological approaches capable of preventing pollution, replacing toxic substances, and reducing the consumption of non-renewable resources. Installed in a 2,400 m<sup>2</sup> area in Rio de Janeiro, the institute has five state-of-the-art laboratories and a team of highly qualified specialists to meet industry demands.

S-GC has been expanding its boundaries regarding national activities and has partnerships in all continents, including recent developments in green cosmetics with Sweden, clean energy with Spain and water treatment with Turkey.

### DESCRIPTION OF ITS TECHNOLOGY AND CAPABILITIES IN R & D

(Products, technologies, applications, services, etc.)

SENAI Innovation Institute for Green Chemistry (S-GC) promotes long-term sustainable growth of the Brazilian industry. Through applied research, S-GC promotes innovations in the fields of bio-refinery, green chemistry, sustainability and waste management. S-GC counts on its infrastructure, involving standard processing equipment like autoclaves, fermenters, supercritical CO<sub>2</sub> extractors and "state-of-the-art" chromatographic (GC-MS, HPLC, ICP-OES, ICP-MS) and spectroscopic (UV/vis/IR) analytical tools.

In addition, S-GC has partnership with several startups, which aim to develop sustainable solutions for the plastic industry such as development of an intelligent packaging by nanoencapsulation of innovative materials (e.g. natural colorimetric c sensors) in the polymer matrix.

## PROPOSED COLLABORATIVE PROJECT IN R & D

(As much detail as possible, both in what it offers and what you want in a potential partner)

- **Countries of interest:** Sweden and Brazil
- **Technology offered to international partners:** autoclaves, fermenters, supercritical CO<sub>2</sub> extractors and “state-of-the-art” chromatographic (GC-MS, HPLC, ICP-OES, ICP-MS) and spectroscopic (UV/vis/IR) analytical tools
- **Technology looking for an international partner:** expertise in analytical chemistry, cosmetic formulation and/or clinical tests
- **Other specifications, requirements or comments:**
- **PROPOSED COLLABORATIVE PROJECT IN R & D:**

Pruritus is a symptom of dermatological and psychological diseases affecting billions of people. Chronic pruritus often leads to social stigma, depression, fatigue and anxiety. This proposal subject to develop a modern science-based, scalp care active P-CAM (Product of Component Active Mixture) with anti-itch/antiinflammation benefits, aimed to be a registered Medical Device Class 1. The product will be created by optimizing merges and combinations of compounds from Swedish and Brazilian medicinal plants to maximize their beneficial effects on scalp pruritus. These plants contain further active components that at the right realization brings omnipotent additive effects to the product. We aim to elucidate how merges of corresponding actives can be combined to create highly efficient anti-itch actives. The formulation will have a high natural index and an immense sustainability impact. To optimize the final outcome, we will use artificial intelligence in response simulations, result predictions and IP searches.

Dakmatter is one of the most prominent startups in the cosmetic innovation ecosystem worldwide. Headquartered in Sweden (ranked as #1 most innovative country in the EU) the company has unique products directed to curly hair, including itchiness, flaking, dryness, no-growth, hair loss, among other common hair problems. Dakmatter products are unique for being cosmeceuticals (i.e., cosmetics with medicinal properties), based solely on natural products and containing only sustainable chemicals. This makes Dakmatter’s cosmetics less harmful to the hair and skin and for being environmentally friendly.

Seeking to continue pushing the boundaries of innovative products using natural chemicals, Dakmatter is partnering up with SENAI Green Chemistry (Brazil) in a project aiming to develop a new product for treating scalp problems such as dandruff, seborrheic dermatitis, and folliculitis. The new formulation will combine Amazonian and Scandinavian plants with a proven track record of anti-itch, anti-inflammatory and

anti-fungi properties bringing a potential long-term treatment for scalp diseases.

**General comments:**

- By sending this information document authorizing its dissemination.
- A profile of the company must be attached

# DAKMATTER

DAKMATTER is a new generation science based functional clean beauty. A Swedish cosmeceutical brand focusing on the 10 most common scalp problems of today.



# PRODUCT TESTING



**Test group >50**

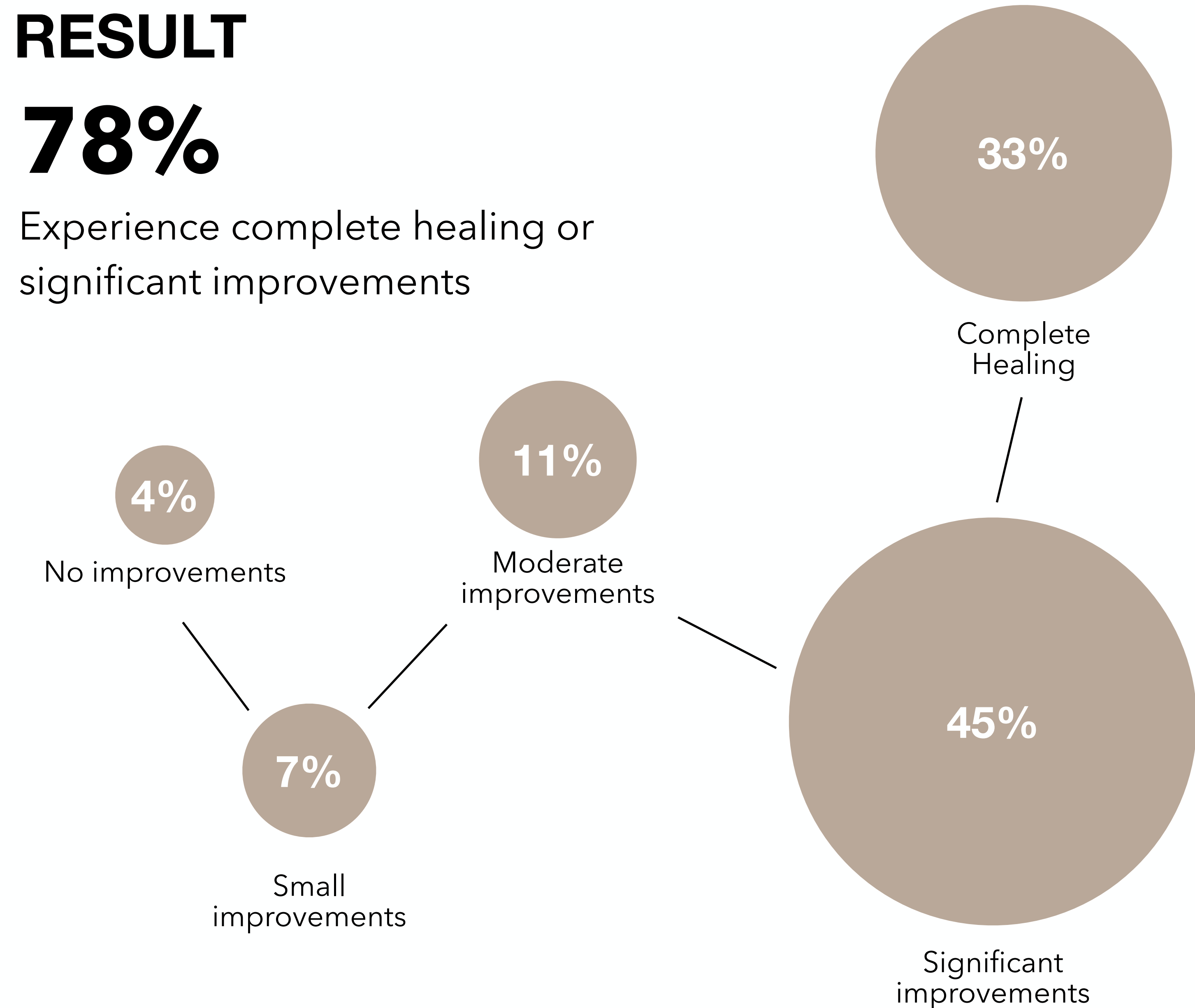
Female 92% Male 8%

2019 - 2021

## RESULT

# 78%

Experience complete healing or significant improvements



# TESTEMONIALS



BEFORE / AFTER

Alopecia Areata -  
hair loss in patches

BEFORE: 3 years on heavy  
steroids.

AFTER: 12 weeks on  
cosmeceuticals.



BEFORE / AFTER

Acne Keloidalis Nuchae –  
inflammation of the hair follicles

BEFORE: 4 years on heavy  
steroids.

AFTER: 6 weeks on  
cosmeceuticals.



BEFORE / AFTER

Dermatitis –  
hair loss, itching and flaking

BEFORE: dandruff shampoo, zink  
paste

AFTER: 2 weeks on  
cosmeceuticals.



BEFORE / AFTER

Redness and water-filled bumps  
due to tight braiding.

BEFORE: 4 days of pain and  
flaking.

AFTER 2 hours: pain relief no  
flaking and decrease in redness

## THE PURE PRURITUS PROJECT

Dakmatter is a small start-up with big ideas regarding organic phyto cosmeceutical scalp care. We might be new on the market, but old in the game.

Our board members have long experience in medicinal bioscience and organic clean beauty R/D, production and marketing.

With the growing market of cosmetic scalp care in mind, we formed a bilateral consortium to create a unique **medical class 1 product** solving real problems while blurring the line between cosmetics and pharma.

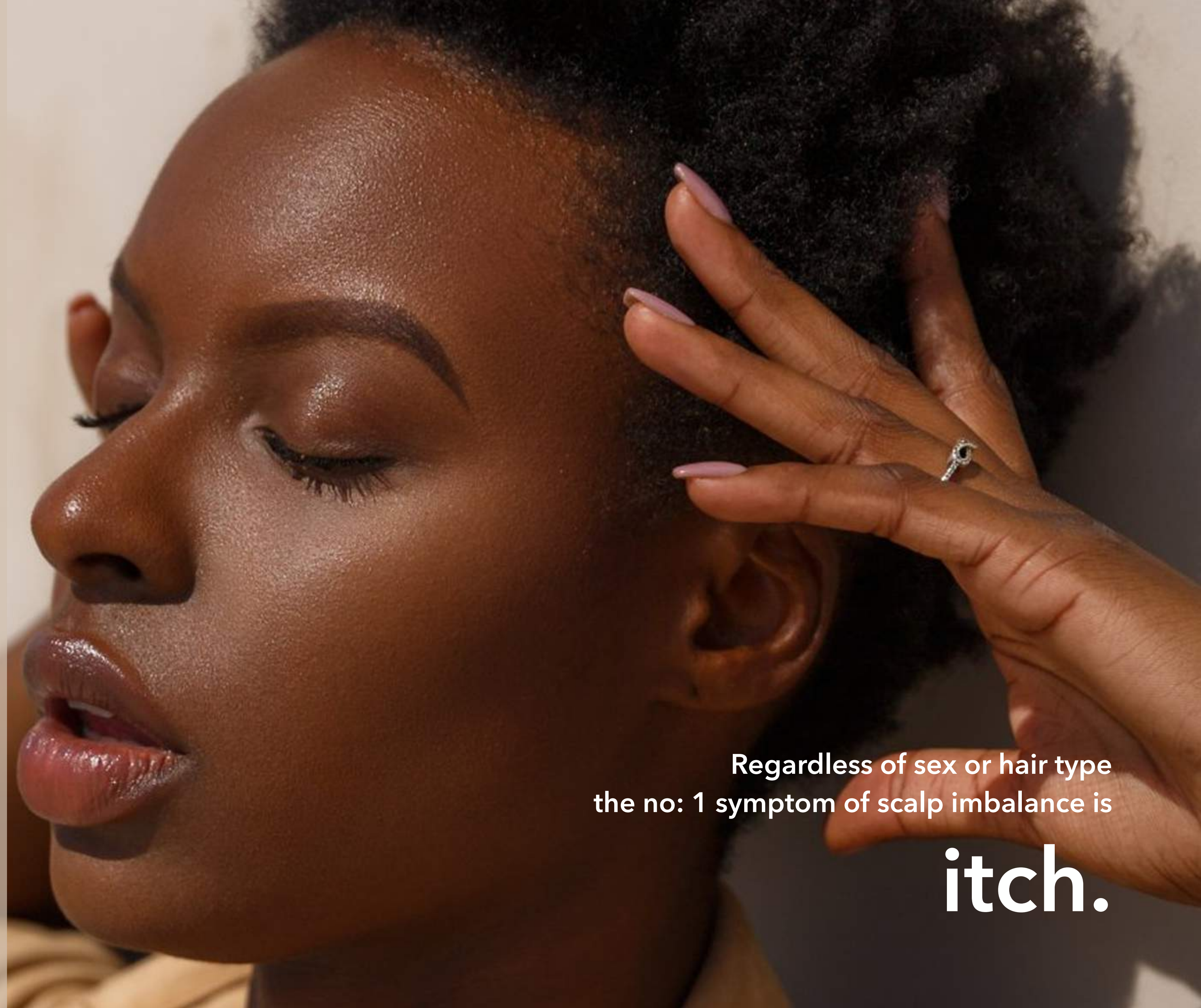
Pre studies funded by:



DAKMATTER

Regardless of sex or hair type  
the no: 1 symptom of scalp imbalance is

itch.



## THE WHY

Scalp itch is a widespread symptom of many dermatological and psychological diseases, affording billions of people.

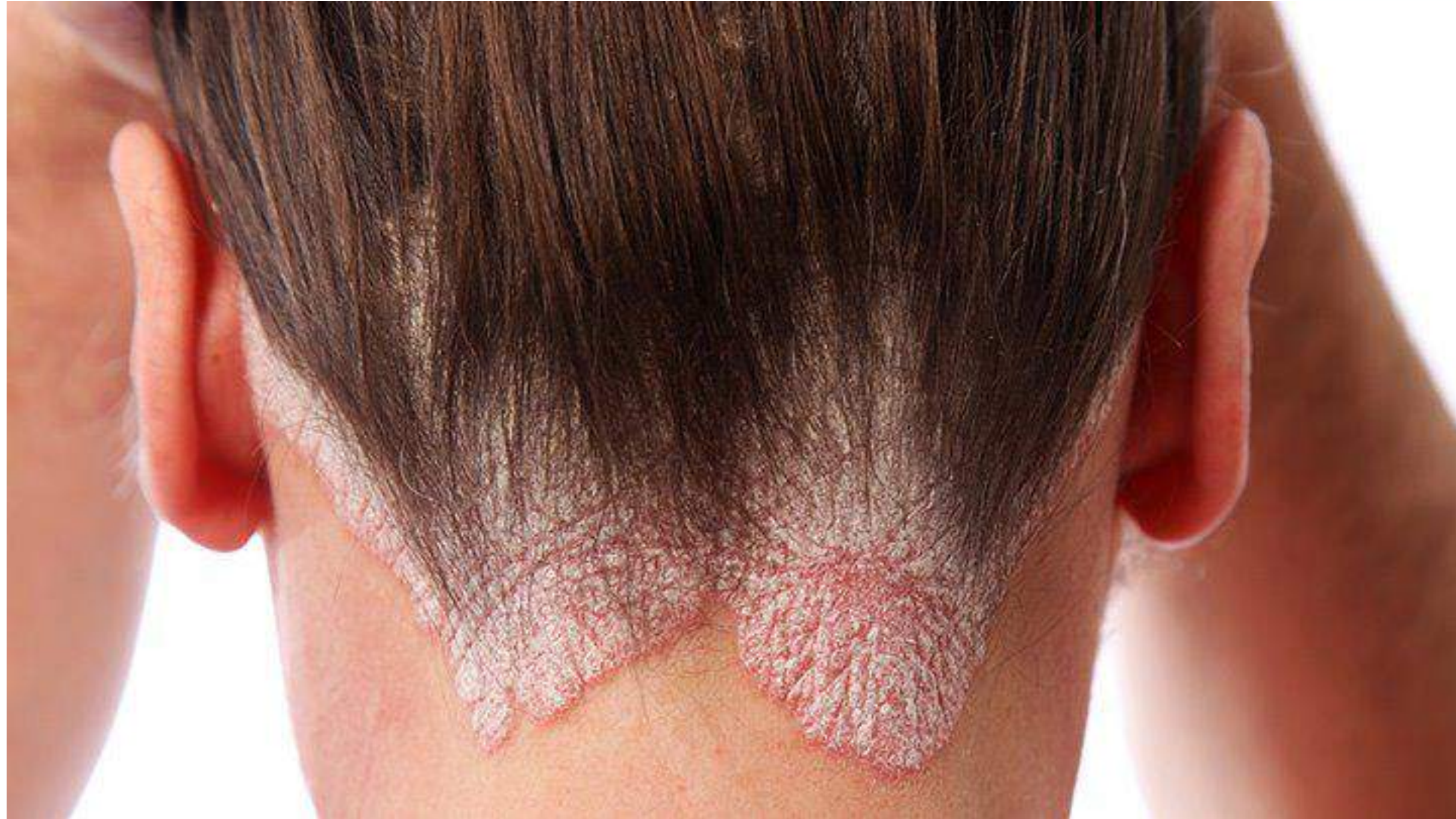
Unregardedly, the underlying condition, chronic itch, substantially reduces the quality of life and often leads to social stigma, depression, fatigue and anxiety.

Women are more affected than men as scaring, hair loss and baldness is not as socially acceptable for women as it is for men.



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## THE FACT



The most common itchy scalp and hair loss conditions all cause or are caused by inflammation, amongst other factors. Inflammation is therefore, a significant aspect to take into account when looking for a itching relief.

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## PRESENT OPTIONS

Current pharmaceutical solutions primarily include topical steroids, where long-term usage often leads to other issues, such as: impaired skin barrier function and thinning of the scalp and skin on the fingers used to apply the steroids. Burning, stinging, dryness and in some cases, unfortunately - more itching.



## THE PRODUCT

The ideal product would be a combination of anti-pruritic, anti-inflammatory, antioxidant, soothing, moisturising, microbiome-regulating, and efficacious actives. Safe for daily and long-term usage. Which is exactly what we planning to do in this project.

DAKMATTER



## THE HOW

The majority of today's most common medicines, i.e. anti-inflammation, antipyretic and analgesics, are synthetic versions of one or a few botanical compounds.

With today's modern biotech, we don't need to synthesise. Instead, we can reach better and more omnipotent results by retrieving 1000-and of natural active compounds and plant active combinations, that evolution already served us.

To get the ultimate theoretical combinations, we will use green biotech, artificial intelligence and analytic chemistry.



## THE GOAL

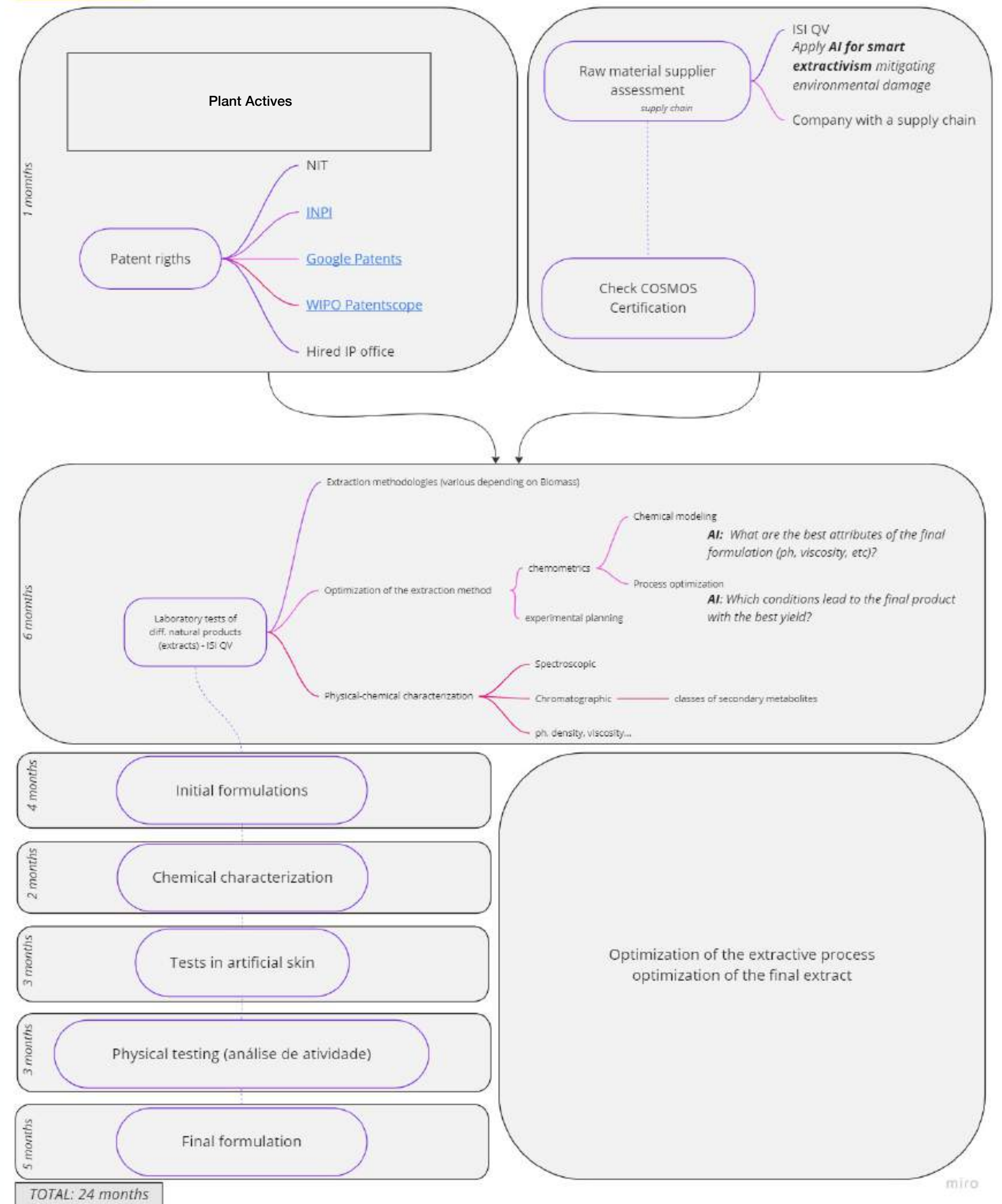
Our goal is to create an organic Medical Device Class 1 anti-itch/anti-inflammation scalp product by combining **Scandinavian** and **Brazilian** medicinal plant actives, artificial intelligence and green biotech.



# TASKS & TIMLINE

	Partial assignments	Short description
1	Objective <b>DM</b>	The number one sign of scalp imbalance is itch. The objective of this project is to develop 1-2 medical device anti-itch care products based on pure plant extracts. The device is to be COSMOS-certified
2A	Pre litterary assesment <b>DM</b>	A minor initial literature study has been carried out. This has to be completed with a major study that also include patent rights
2B	Litterature assessment <b>BS</b>	Revaluation of Litterary assessment   Patent documentation=
3	Raw material supplier assessment <b>DM/BS=AO/AD</b>	Which suppliers will be able to participate with know-how and goods at COSMOS-ECOCERT and "Medical Device" standard.
4	Supplier Screening <b>DM/BS=AO/AD</b>	Covering what the individual suppliers can deliver and ensuring that the supplier(s) chosen as a collaboration partner can meet the strict requirements when delivering for the production of "Medical Device" or as a cosmetic ingredient at COSMOS-ECOCERT standard.
5A	Chemical breakdown <b>IV/BS</b>	Chromatographic Analysis of extracts in order to document concentration of active ingredients
5B	First Physical testing <b>DC?</b>	This is where physical tests are carried out on the individual extracts to ensure they are not directly harmful when used in a product with the overall purpose.
7	Formulation/product types	Clarify which product types should be focused on and assess which "delivery systems" should be used. It is important to use the right systems to ensure the best functionality.
6	Preliminary claim assessment <b>DM/BS</b>	Investigate the possibilities for obtaining a "Medical Device Class 1" with the actives that have been chosen or not.
8	Pre screening. Human testing <b>DM/DC</b>	"Paneltest interviews/questionnaire" to ensure that the products have the right functionality in order to continue working on the 1-3 with the highest score.
9	Safety Assessment <b>DM</b>	It must be carried out and documented that the selected products are safe to use according to the guidelines for Medical Device Class 1. If "only" branded as cosmetics, cosmetic guidelines will apply.
10	Patent documentation <b>IV</b>	Final preparation of documentation for patent.
	Medical Device Class 1 Protocol <b>DM/DC/BS</b>	Protocol to be allowed to carry out panel testing on a large scale according to Medical Device Class 1.
11	Authority approval <b>DM/BS</b>	Approval from the authorities: Medical Device Class 1 Europa US SAM
12	Paneltesting SCREENING <b>DM/DC/BS</b>	Panel testing on a large scale
13	Production <b>DM</b>	Select a producer of the products
14	PR <b>DM</b>	PR-provider
15	Sales & distribution <b>DM</b>	Through dakmatter distribution and sales

How chemistry and Artificial Intelligence are combined?



# SWEDISH TEAM

REPRESENTING DAKMATTER & INVITRO PLANT-TECH



## ALEXA WOLF

Project Manager  
Certificate in Advanced Organic  
Cosmetic Formulation  
MA Film Directing  
BA Journalism & Communication  
CEO Dakmatter



## HENRIK OLTÈNG

MA in economics.  
Ex (Nordic) CEO of Weleda -  
one of the world's largest,  
organic skin care brands. He  
is also the founder of NOC -  
Nordic Trade Organisation of  
Organic Cosmetics  
FEO Dakmatter



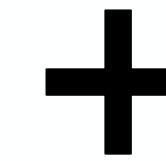
## JACKY L. NGUENE-VAN DRIEL

Level IV Certificate in  
Trichology  
PGCE (Postgraduate  
Certificate University of  
London of Education),  
Science  
Bsc Medical Biochemistry  
(Hons)  
R/D Dakmatter



## TOM HORNSHØJ-MØLLER

Senior Cosmetic Organic  
Chemist R&D/  
Bio Chemist Board member  
SCANCOS  
URTEKRAM, ICA ECOCERT  
ROSSMAN, HENKEL  
R/D Dakmatter



## ANNA HOLEFORS

Owner, Founder and CEO at  
In vitro Plant-Tech.  
Post-doc, Swedish University  
of Agricultural Sciences,  
Sweden

Post-doc, Norwegian  
University of Plant Sciences ,  
Norway

Post-doc, Max Planck Institute  
for terrestrial microbiology,  
Germany



In vitro Plant-tech is a research derived company specializing within the plant cell cultivation technology, development and production of botanical extracts and bioactive substances. The company helps high end International Cosmetic, Nutraceutical and Pharmaceutical companies to develop attractive and exclusive natural consumer product lines based on botanical extracts from in vitro cultivated plant cells. They develop and produce client exclusive superior extracts and plant raw material from plant cell lines - high in levels of bioactive substances, free from pesticides, diseases and pollution, cultivated in sustainable bioreactor systems with full traceability.

# BRAZILIAN TEAM

REPRESENTING SENAI



## **GUSTAVO SILVA DE MIRANDA**

Project Manager & Research Scientist  
Ph.D. in Biodiversity and eight years of experience in project management. innovation, bioeconomy, circular economy, sustainability, and internationalisation.  
SENAI Institution of Green Chemistry



## **BRUNA FAJUN**

Research Scientist  
PhD in Physiology  
MSc in Physiology  
BSc in Biological Sciences  
SENAI Institution of Green Chemistry



## **LEON NASCIMENTO**

Research Scientist  
Computer Scientist  
MSc in Artificial Intelligence and Ethical AI  
BSc Pharmacy  
SENAI Institution of Green Chemistry



## **THIAGO WOLFF**

Research Scientist  
Ph.D. in Natural Products Chemistry  
MSc in Chemistry  
BSc in Chemistry  
SENAI Institution of Green Chemistry



## **BÁRBARA MAIA DE VIVEIROS**

Research Scientist  
PhD Student in Chemistry  
MSC in Organic Chemistry  
BSc in Chemistry  
Specialization in Pharmaceutical Industrial Technologies  
SENAI Institution of Green Chemistry



## **BIANCA CARVALHO DOS SANTOS**

Research Scientist  
BSc in Chemistry with Technological Assignments  
SENAI Institution of Green Chemistry



SENAI Green Chemistry is part of the largest private network of research institutions in Latin America (equivalent to RISE in Sweden). Its expertise in natural products remounts to almost 10 years of research devoted to sustainable products for Brazilian and international partners. In addition, the capillarity of SENAI Green Chemistry within the Brazilian natural products ecosystems makes it possible for the research institute to identify key partners to supply Amazonian plants for chemical analysis and product development.



## SPANISH TEAM

REPRESENTING DERMACLAIM



**DAVID GONZÁLEZ FERNÁNDEZ**  
CEO & FOUNDER DERMACLAIM | EX-BIONOS BDM

Master in Biomedical Biotechnology (Polytechnic University of Valencia).  
Training topics: Molecular biology, genetic engineering, cancer molecular biology, virology, diseases and disorders, cell culture, pharmacology, toxicogenetics, immunology.

Bachelor of Biotechnology, Biotechnology Bachelor of Biotechnology, Biotechnology  
Universidad Politécnica de Valencia (UPV)

**DERMA**  **CLAIM**

Dermaclaim Lab S.L. is a cosmetic testing laboratory focused in the analysis of end-products and active ingredients, and the demonstration of Claims. The company was born from the desire to provide the most reliable testing service, based on our passion for excellence, after more than 7 years of expertise in the cosmetic business. Dermaclaim exemplifies its passion in a unique focus for quality, both in our laboratory services as well as customer's support and response. Our mission is to ensure the generation of accurate and innovative findings to substantiate the marketing claims, focusing our research in dermocosmetic and nutraceutical products development. We will provide full transparency, our customers will always have access to the complete raw data, and we will make use of cutting-edge technologies, both for the in vitro bioassays and the clinical trials in human volunteers.

# THE MARKET

"There's next to nobody in the scalp care market," Christian Kasteler, Head of R&D for Dynamic Blending, tells Cosmetics Design. And this leaves the category wide open for innovation.

## Scalp Care Update: trends, opportunities, and ideas about an emerging category

By Deanna Utroske  
22-Jan-2021 - Last updated on 22-Jan-2021 at 17:16 GMT



lab photo courtesy of Dynamic Blending

RELATED TAGS: Scalp care, Innovation, trend spotting, Formulation

For years now, scalp care has been worth watching. But already this year it's been included in Forbes coverage of the biggest beauty trends of 2021. Here, Cosmetics Design looks at the latest launches and considers what founders and formulators already know about the future of scalp care.

### Spate: US Trends in Scalp, Hair Care, Lashes and Nails

12 okt. 2021 — Spate's latest U.S. consumer trend reports indicate a growing interest in scalp care, colored lash extensions and tapered square nails.

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## What's next in scalp care



Franziska Wandrey  
Head of Research

Franziska Wandrey, Head of R&D at Mibelle Biochemistry, says that "in the future, we may see a more holistic approach to scalp care. For example, beauty supplements will gain more importance due to the beauty-from-inside trend. Also, the trend of scalp health ... likely [holds] further potential to investigate the scalp microbiome and provide special products." Consumers have become more educated about ingredients as well. Besides "clean," sustainable and effective, Wandrey believes biotechnological ingredients will become more sought after.

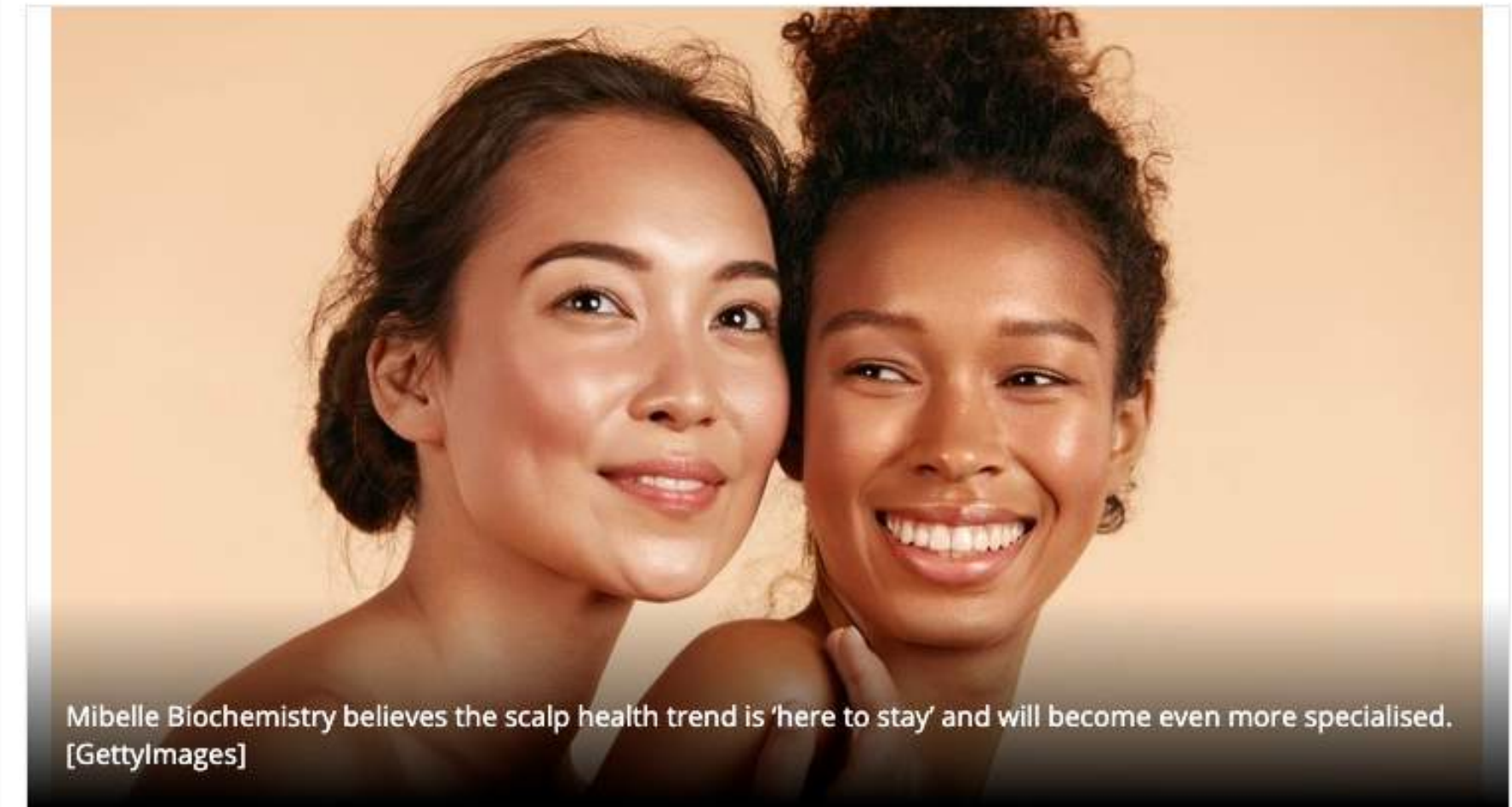


## Re-Post: Scalp care is increasing

A trend which is here to stay: Scalp care. Ever growing since the last years, Forbes now included it in the biggest beauty trends of 2021.

## Healthy hair, healthy scalp: Holistic health trends in hair care further fuelled by COVID-19 - Mibelle

By Amanda Lim  
10-Mar-2021 - Last updated on 10-Mar-2021 at 01:54 GMT



Mibelle Biochemistry believes the scalp health trend is 'here to stay' and will become even more specialised. [GettyImages]

### Scalp Care: Still A Niche Segment With Lucrative Opportunities

6 dec. 2019 — Brazil is the smallest country market covered in our study but the fastest-growing one, increasing by over 18% during the first half of 2019.



DAKMATTER

# Thank you!

For questions and detailed  
prospect plan, please contact:

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