

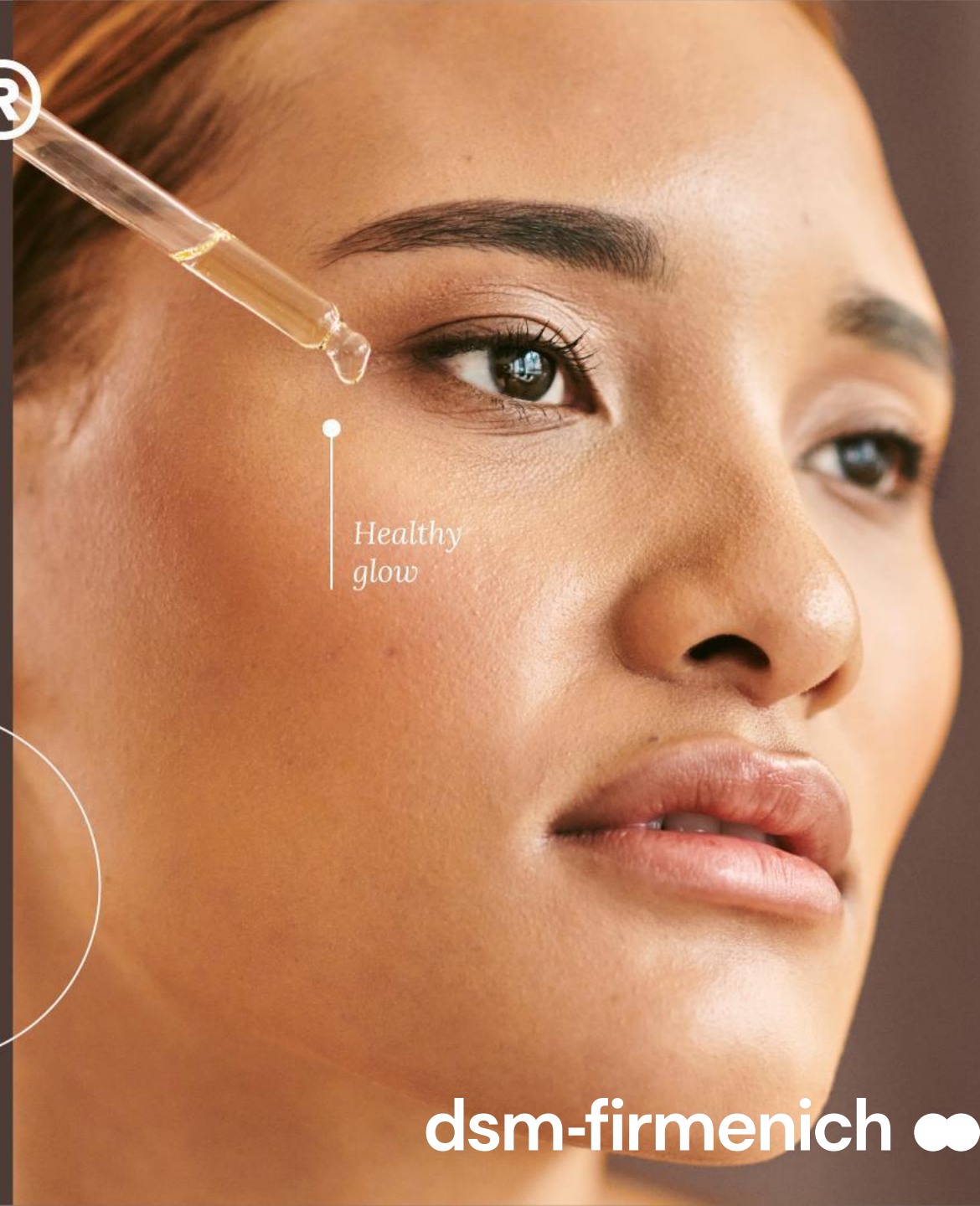
SYN-GLOW®

*Healthy, youthful, fresh-from-holiday
look all year round*



April 2025

Peptides | Pharma-inspired skincare



Healthy
glow

dsm-firmenich 

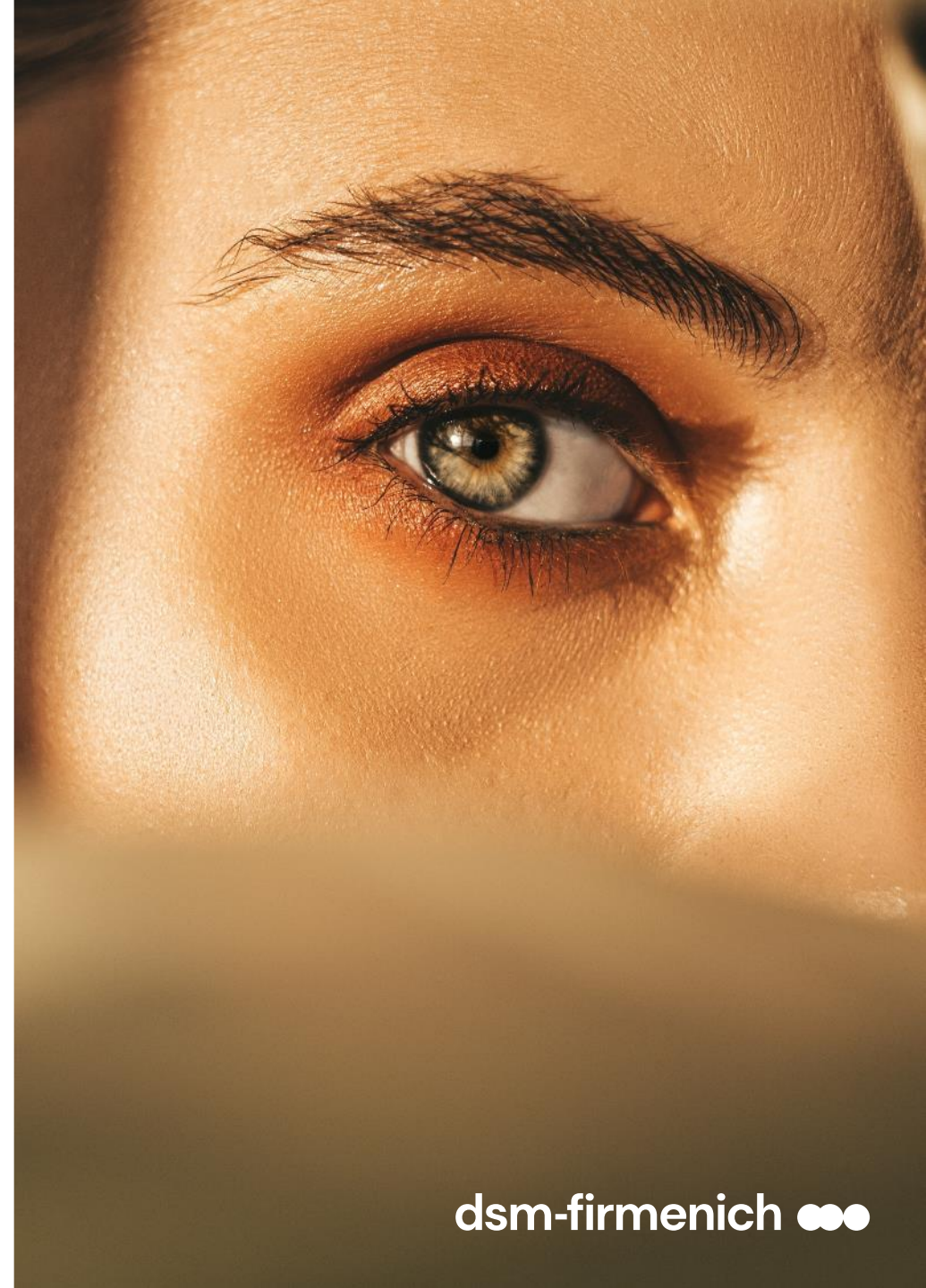
We all love that natural sun-kissed glow that we get from a summer holiday.

Naturally bronzed skin makes us feel beautiful and confident, healthier and revitalised.

But summer holidays only come around once a year, and in the meantime, everyday busy life can leave us feeling tired and our skin looking dull.

Quick-fixes, like make-up or self-tanners, are only superficial and sometimes even artificial.

How to get a natural healthy glow, all year round?



Consumer insights

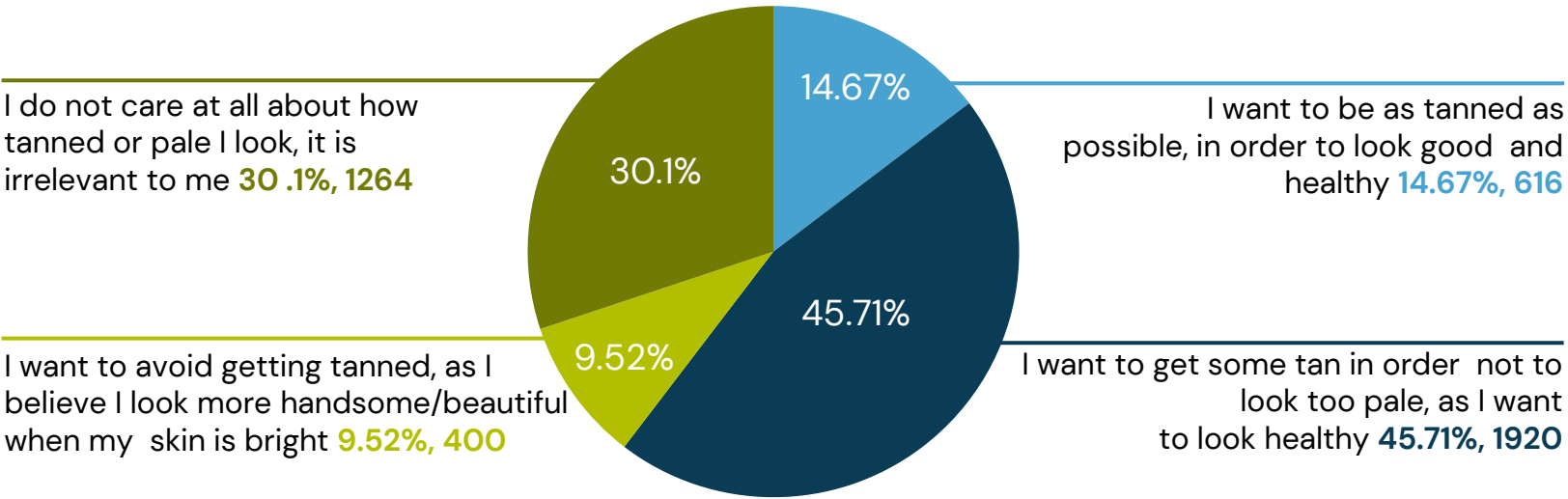


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Consumers value having some tan to look good & healthy

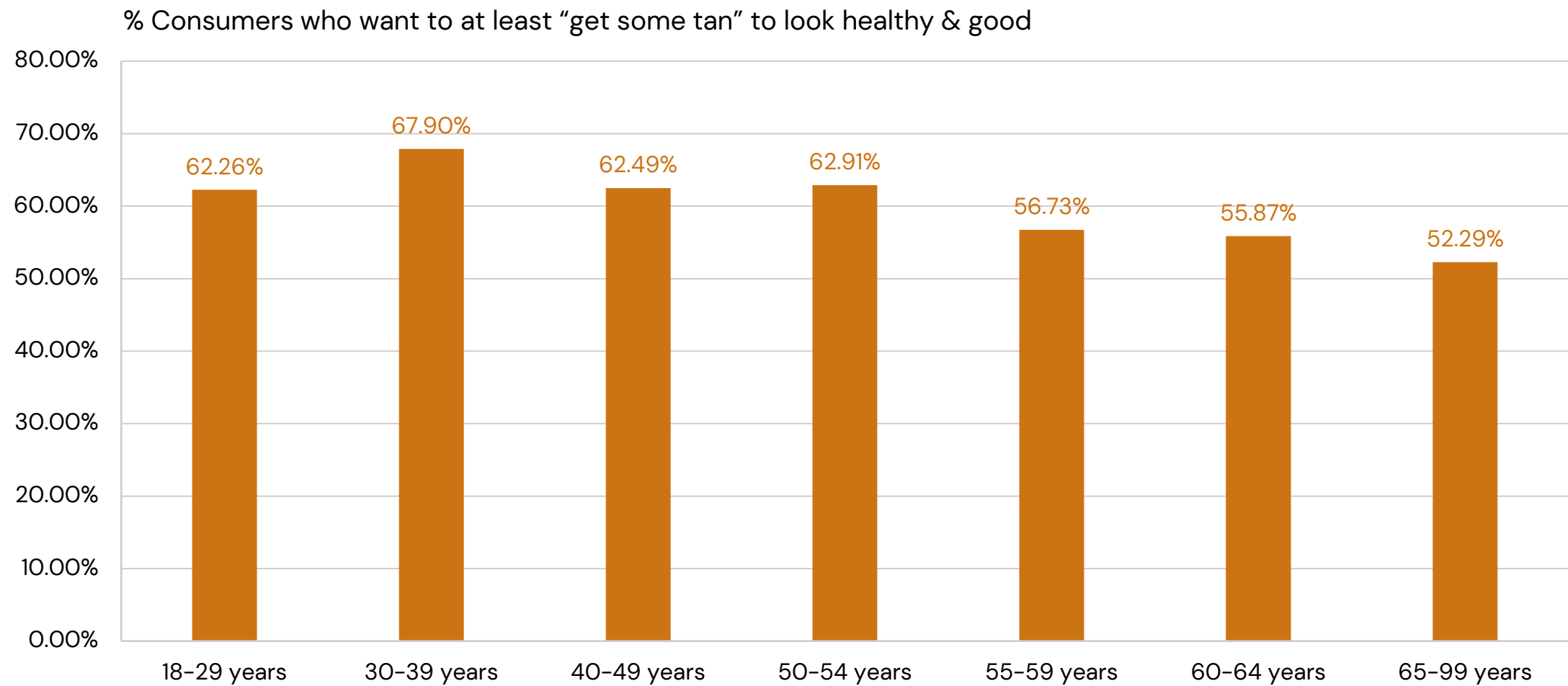
Beauty standards evolved towards a more natural effect, diverting from deep tanning

Q: Think about your skin complexion, how tanned or neutral or pale it is and its role in your grooming/ beauty habits or personal look.
What's your general attitude towards it?



Consumer insights
Source: dsm-firmenich Sun Protection and Skin Cancer Survey, 2017/2018. Global Data excluding Asian Countries

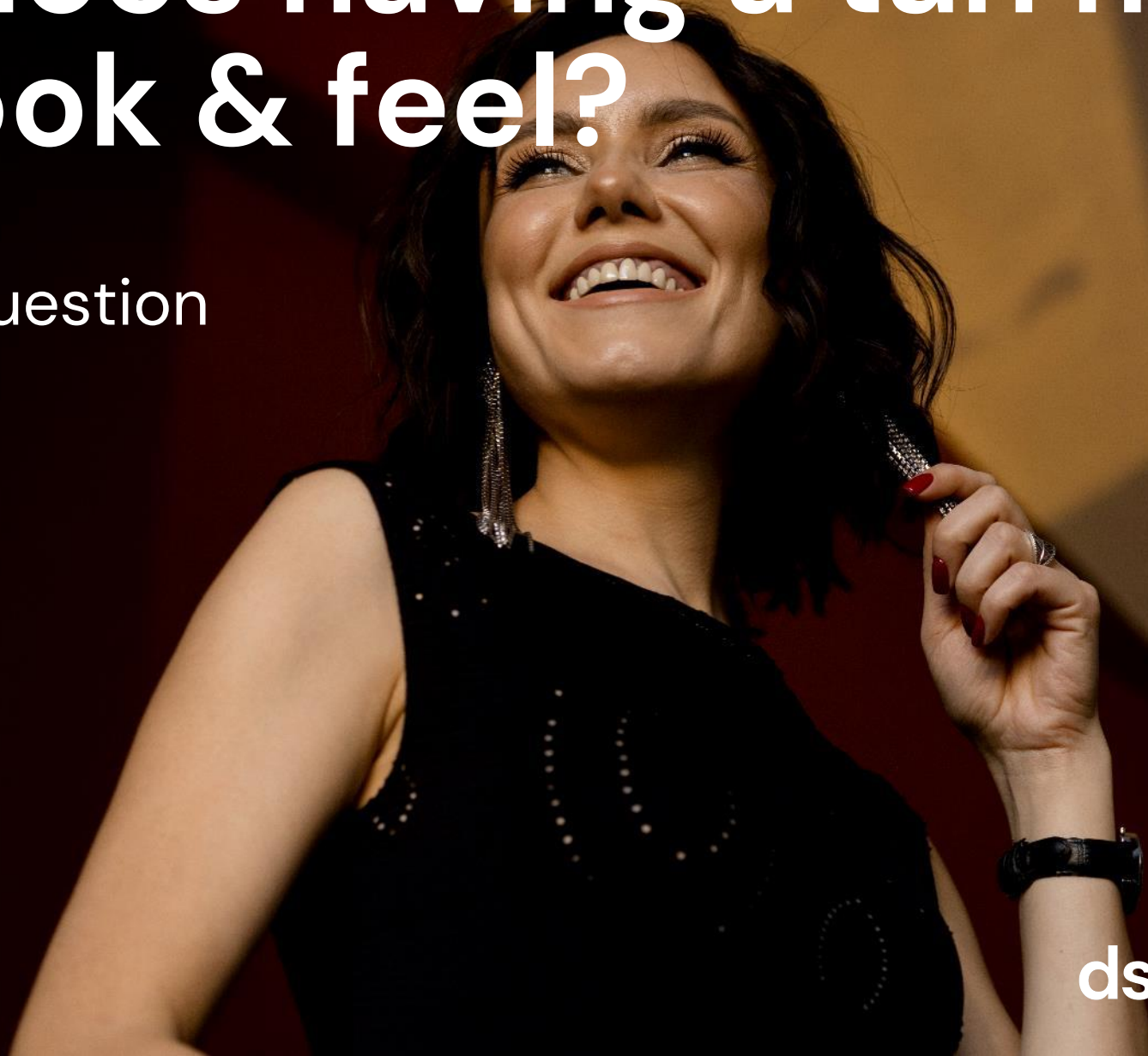
...and this is true across age groups
With bigger relevance below 55 y.o.



Consumer insights
Source: dsm-firmenich Sun Protection and Skin Cancer Survey, 2017/2018. Global Data excluding Asian Countries

How does having a tan make you look & feel?

Consumer question



With a just back from holiday look, people feel... More youthful, beautiful & confident to wear less make-up

"I definitely think having a tan makes me feel and look **younger** and **more confident**".

Staci, 35

"...my preference is to have a tan, because it can affect the **evenness on my face**".

Ashley, 30

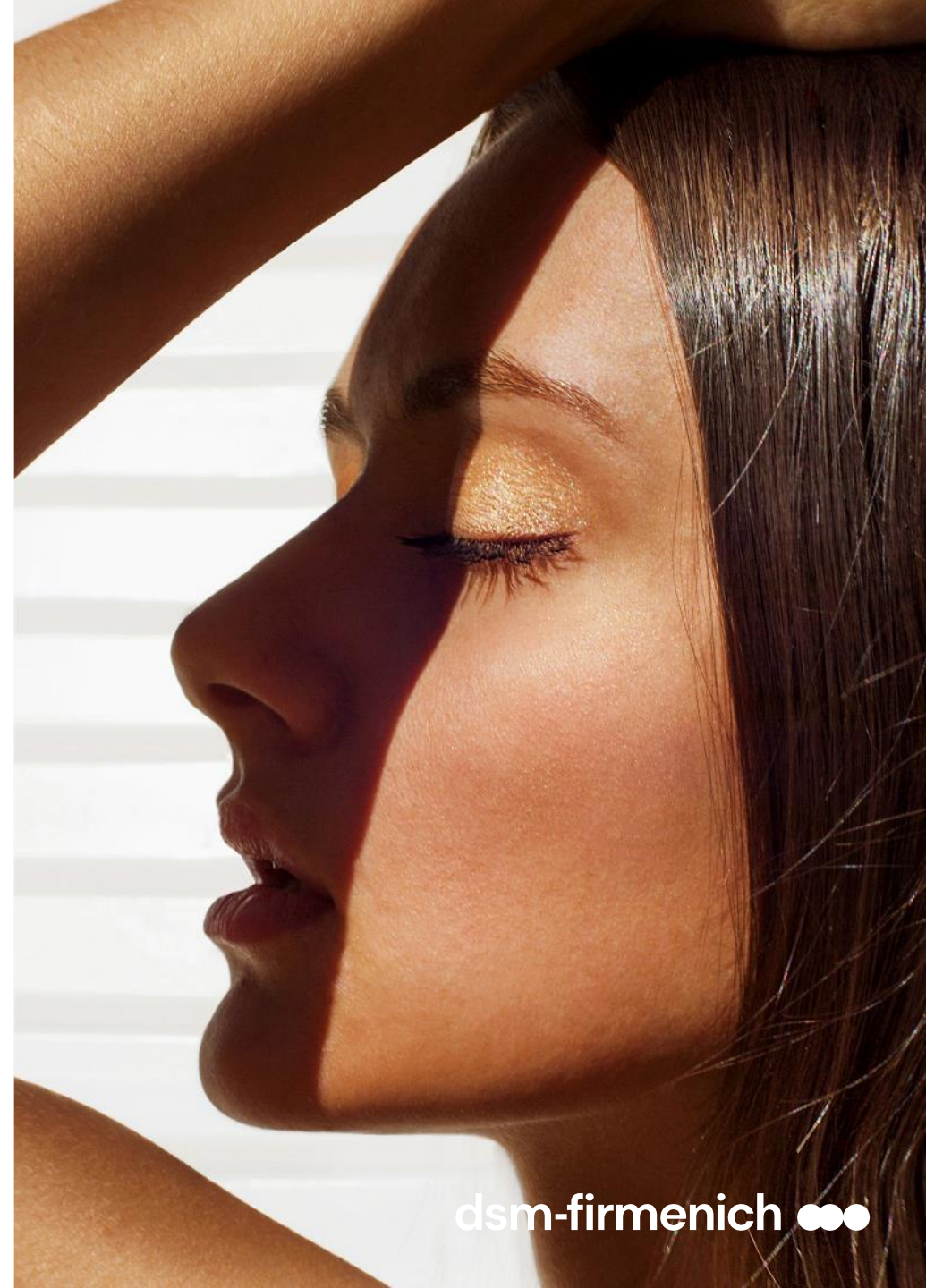
"I think when I'm more tanned I probably do **wear less make-up** because I feel a **bit more confident in my skin tone**".

Kirsten, 34

"When I've got a tan, my **skin definitely looks healthier**. It looks **younger, more even, and smoother**. Having a tan definitely makes me feel younger. I feel **more confident**, and I feel like I can go out **without wearing as much make-up, or any make-up**".

Lucy, 31

Consumer insights
Source: dsm-firmenich Consumers Insights Hub – 2019 Survey



A close-up, profile view of a woman's face, smiling. Her skin is dark and has a natural glow. Her face is partially covered by horizontal shadows from window blinds, creating a rhythmic pattern of light and dark across her features. The background is dark and out of focus.

What does glowing skin mean to you?

Consumer question

In consumers' words...

Skin with “some tan, good colour or not pale” means... “glowing”

“For me glowing skin is skin that has a **really good pigment**, really **good light creating properties**. I wouldn't say my skin was glowing because quite pale. I think skin that has **some colour**, whether it be tan or fake tan does tend to appear more glowing”.

Nicola, 33

“To me glowing skin is **synonymous with health**, the skin looks **fresh and alive**, not covered in makeup, **not pale and pallid, good colour, good tone** and not spotty.”

Stephanie, 49

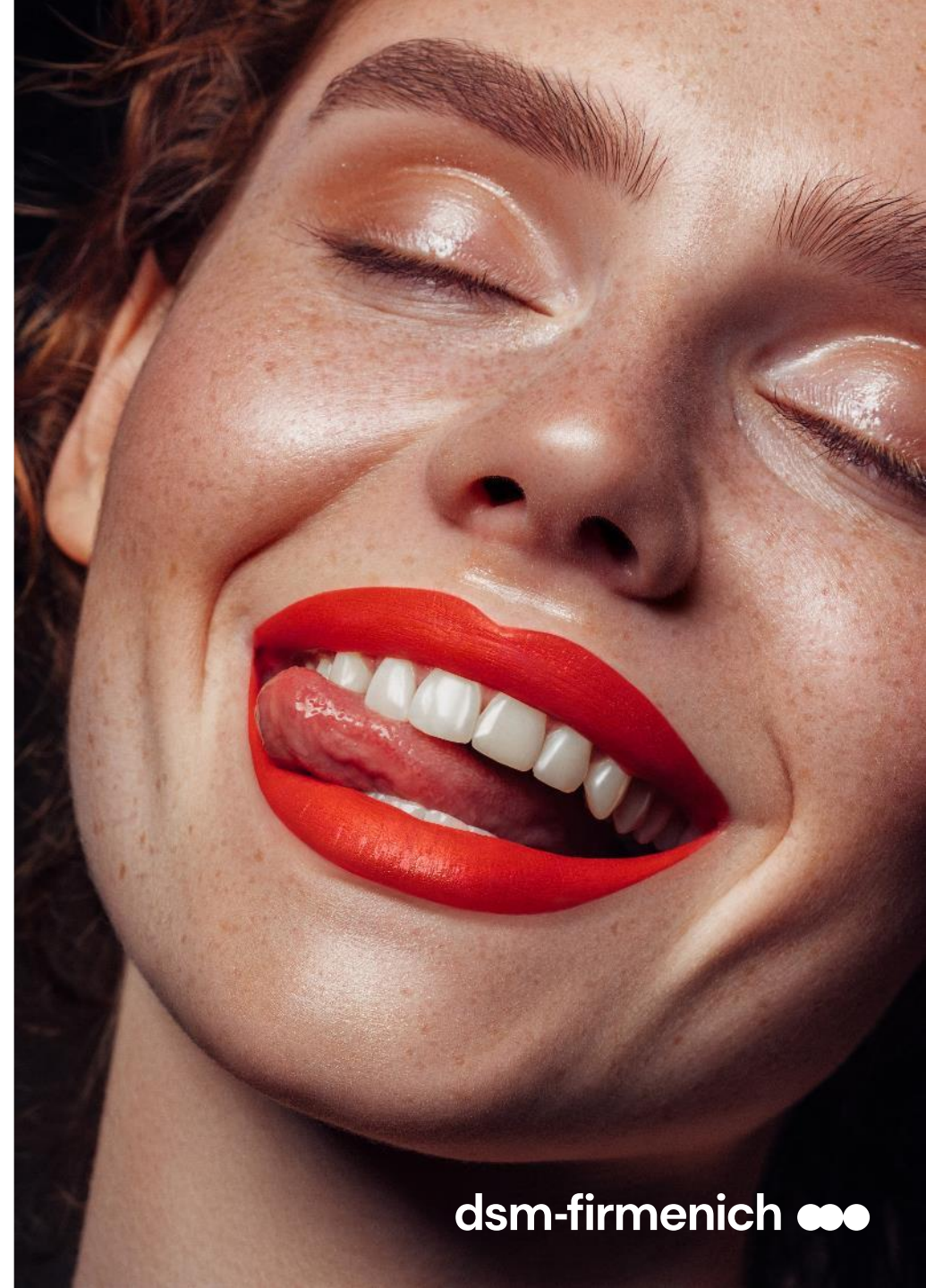
“To me glowing skin means a **nice crisp, dark looking skin** that when you are out in the sun and people see you they can tell that you **have a tan**”.

Penny, 48

“I think that glowing skin means your skin has **healthy colour and shine**, and it's like free of blemishes or any other issues. It's just like sort of **looking sun-kissed but not sun damaged** I guess.”

Michelle, 29

Consumer insights
Source: dsm-firmenich Consumers Insights Hub – 2019 Survey



Ultimately glowing skin means healthy looking

Q:

How would you most want your skin to look like if it is glowing?



Healthy looking – 44%

Radiant – 22%
Luminous – 12%



Radiant – 29%
Luminous – 18%
Healthy looking – 15%



Healthy looking – 33%

Even skin tone – 14%
Peachy – 12%



Healthy looking – 33%

Peachy – 20%
Brightened – 16%

Source: dsm-firmenich Global Glow exploration – Global N= 1005, US N=201, France N= 201, Russia N=200, Brazil N= 202



dsm-firmenich proudly introduces the perfect solution for this market context

NEW Glow-Boosting Peptide

It **works with skin** to bring out its natural **healthy glow**
...**all year round**, as if you were **just back from holidays!**

SYN-GLOW®

ID Card

INCI NAME:	Benzoyl Dipeptide-18 D-Phenylalanyl Arginyl D-Tryptophan Dipropylamide Mesylate, Aqua, Glycerin		
TECHNOLOGY:	• Highly potent patented pentapeptide, made by cutting-edge SYN®-Peptide technology, designed to highly selectively boost MC1R (Melanocortin-1 receptor), a biochemical switch (off/on) of the Melanin synthesis • From a library of more than 100 peptides, SYN-GLOW® has been identified to be the best candidate to activate MC1R • In silico structure-based peptide design and artificial intelligence (AI), visualized with molecular modelling • TFA-free¹ • 99.9% of natural origin (according to ISO 16128)		
TECHNICAL:	Form: Liquid pH of use: 4.0-7.5	Use level: 1-3% Preservative: Free	Solubility: Water miscible
BENEFITS:	• Highly selectively MC1R booster* • Significantly boosting key regulators of Melanin synthesis MITF, TYR, TRP1* • Stimulates anti-oxidant defense factor (Nrf2) after UVA-irradiation* • Healthy, youthful, fresh-from-holiday look all year long** • Promotes a visible healthy glow in just 5 days, with long lasting result and natural personalized effect**		
REGISTRATION CERTIFICATION			

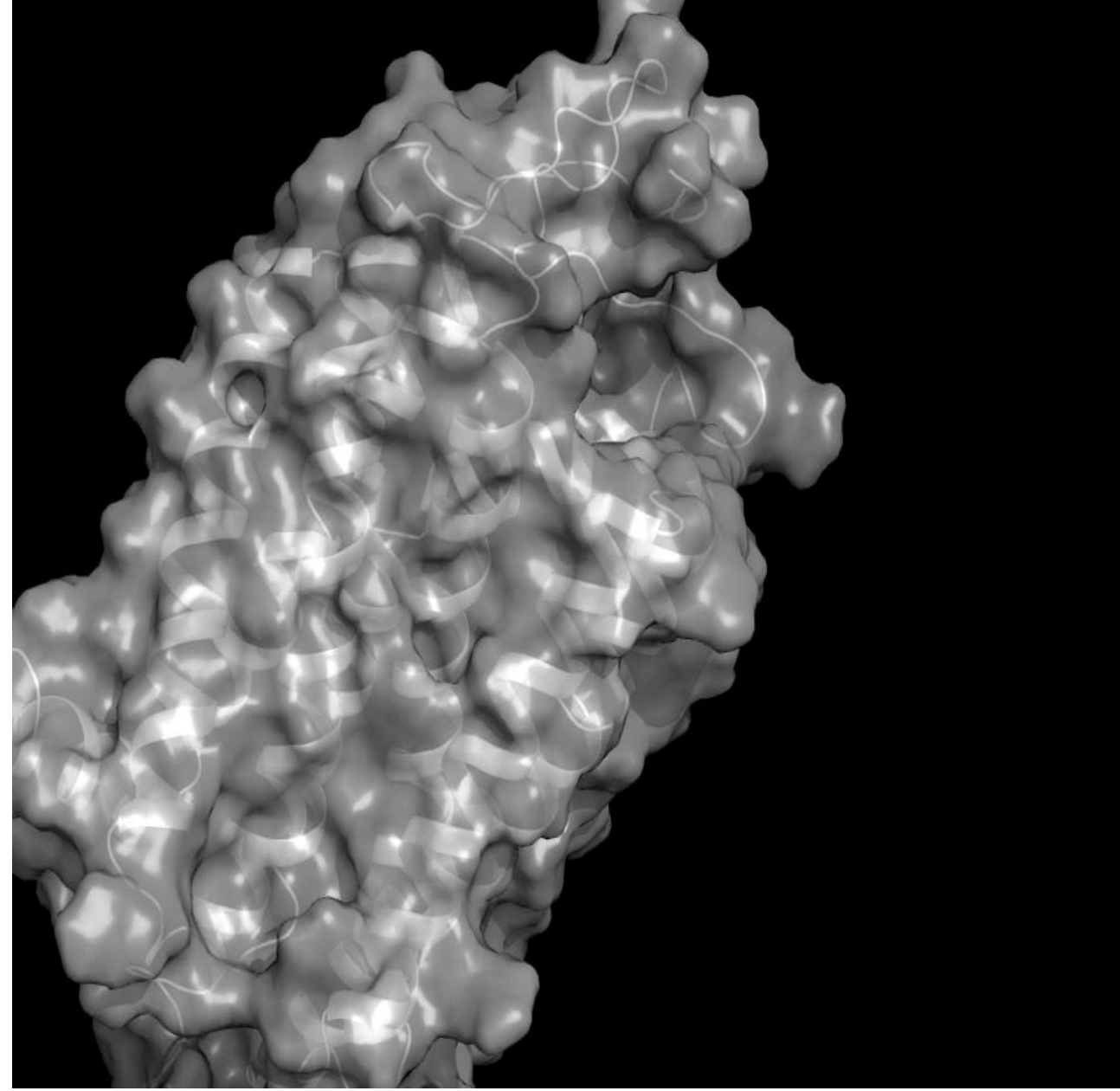
**SYN-GLOW® is a pentapeptide
Designed to highly selectively boost
MC1R (or Melanocortin-1 receptor)**

**MC1R is the biochemical switch (off/on)
of the Melanin synthesis.**

MC1R is a transmembrane protein,
integrated into the cellular membrane
and, in this role, it's the unique gate to
biological tanning.

Melanin is the pigment that gives skin its
unique sun-kissed tone.

In vitro: from a library of more than 100 peptides, SYN-GLOW® has been identified to be the best candidate to activate MC1R. Results published in Int. J. of Molecular Sciences: <https://www.ncbi.nlm.nih.gov/pubmed/31817532>
Mode of action: Mc1R activation, related to scientific evidences. This is not intended to be final product claim



A close-up, high-resolution photograph of a person's face, focusing on the right eye. The eye is light-colored with a greenish-yellow hue and is looking slightly to the right. The skin is fair and has a soft, natural glow. The background is blurred, showing hints of a patterned fabric. The text "Let's get to know MC1R better..." is overlaid in white at the top left.

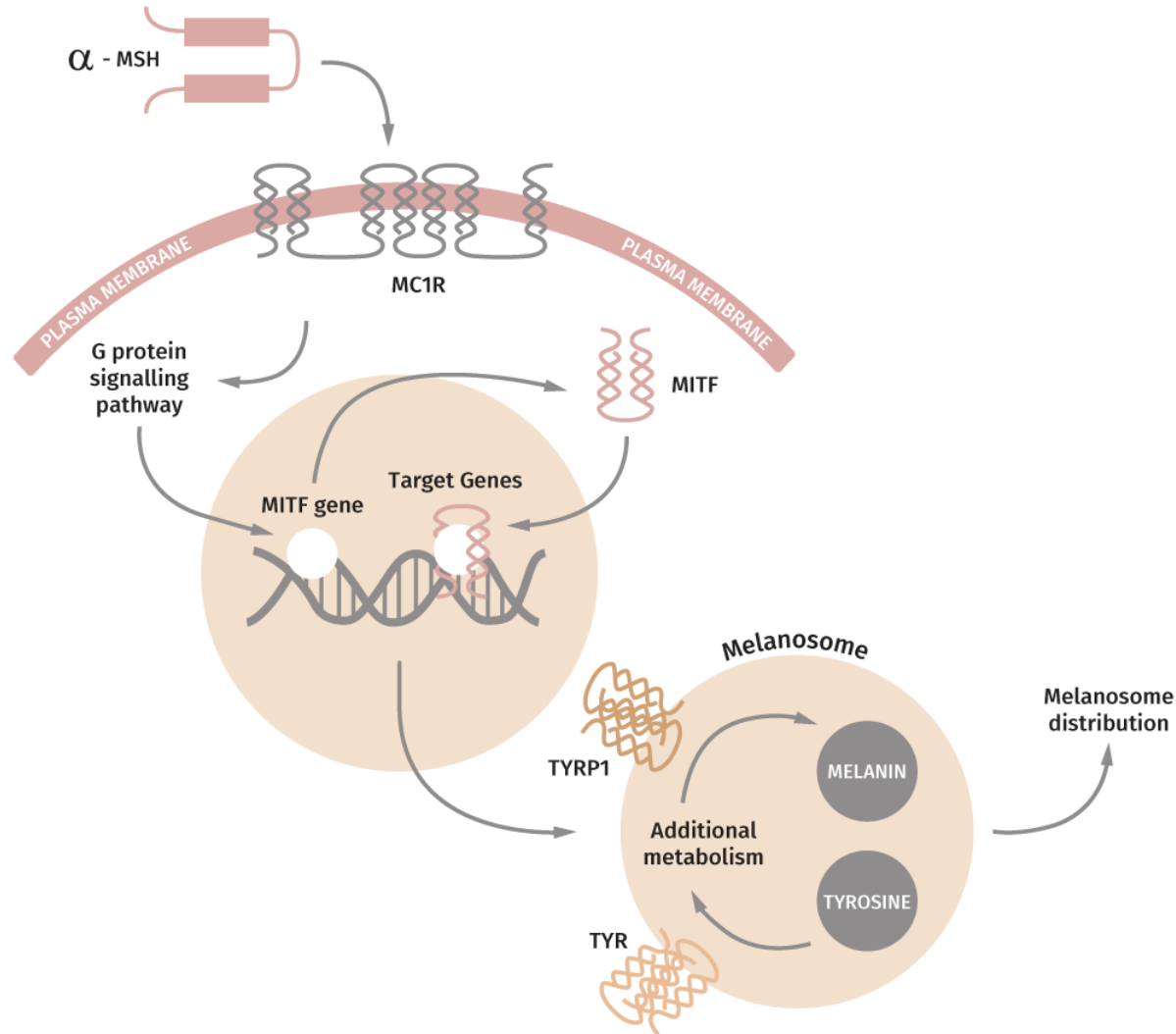
Let's get to know MC1R better...

dsm-firmenich 

MC1R is the master regulator of skin tanning.

MC1R is a transmembrane protein so it is integrated into the cellular membrane: in this role the MC1R is the unique gate to the melanogenesis pathway.

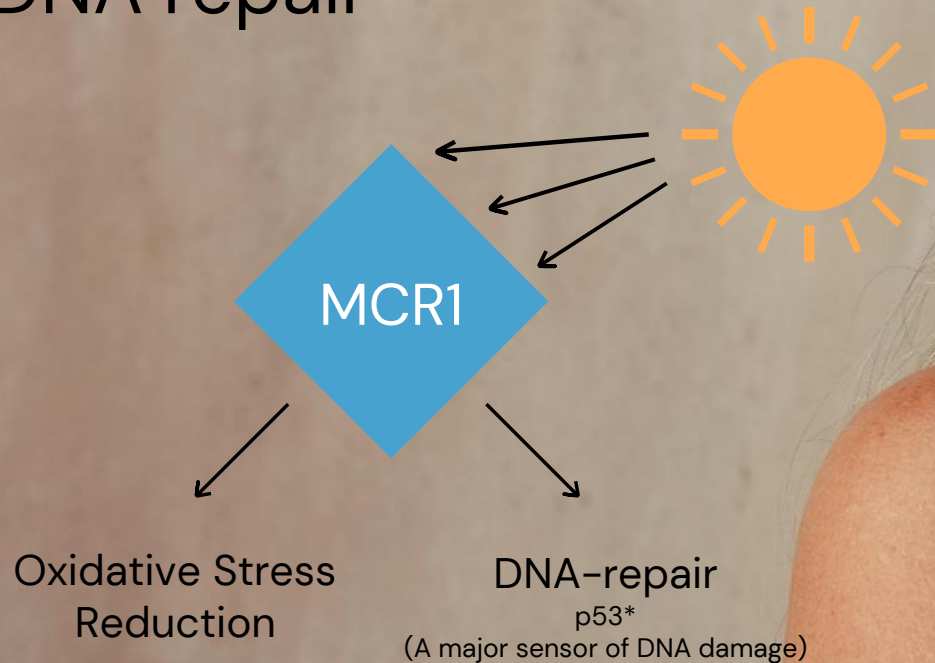
The signal to switch on is triggered by alphaMSH or by SYN-GLOW®.



MC1R = Melanocortin 1 Receptor
Alfa-MSH = peptide of 13 amino acids, the natural agonist of MC1R
MITF = Microphthalmia-associated transcription factor
TYR = Tyrosinase
TYRP1 = Tyrosinase related protein 1
G protein = GTP (Guaninotriphosphate) binding protein

Strengthening skin's defences from within

MC1R is also known for reducing oxidative stress and promoting DNA repair



Source: Alpha-Melanocyte-Stimulating Hormone Suppresses Oxidative Stress through a p53-Mediated Signaling Pathway in Human Melanocytes; Kadekaro, Chen et al, Mol Cancer Res; 10(6) June 2012.

Is MC1R a youth gene?...

It seems MC1R can affect age appearance

The MC1R Gene and Youthful Looks

Highlights

- We present the first genetic associations with how old people look (perceived age)
- Variants in *MC1R*, a pigmentation gene, significantly associated with perceived age
- The *MC1R* association was independent of wrinkling, skin color, and sun exposure
- The *MC1R* genetic effect resulted in looking up to 2 years older for one's age

Authors

Fan Liu, Merel A. Hamer, Joris Deelen, ..., Tamar Nijsten, Manfred Kayser, David A. Gunn

Correspondence

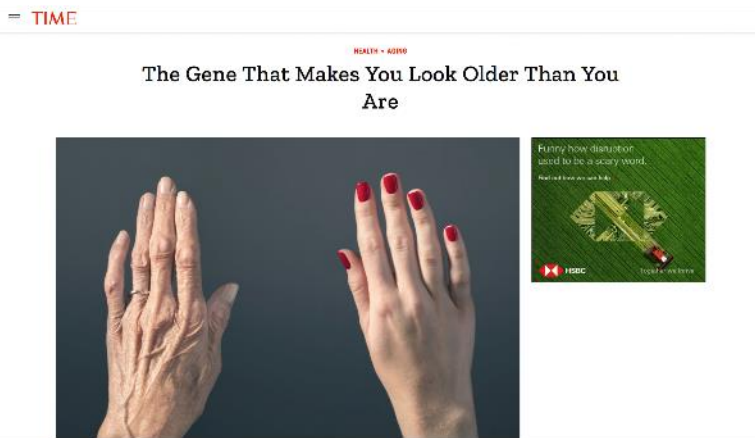
m.kayser@erasmusmc.nl (M.K.), david.gunn@unilever.com (D.A.G.)

In Brief

The biological basis of why some people look younger and others older for their age remains poorly understood. Of over eight million tested, Liu et al. find DNA variants in *MC1R*, a pigmentation and skin cancer gene, as the most significantly associated with perceived facial age, providing new molecular leads to the understanding of youthful looks.



The Guardian
<https://www.theguardian.com/science/2016/apr/28/gene-linked-to-youthful-looks-has-been-discovered-scientists-claim>



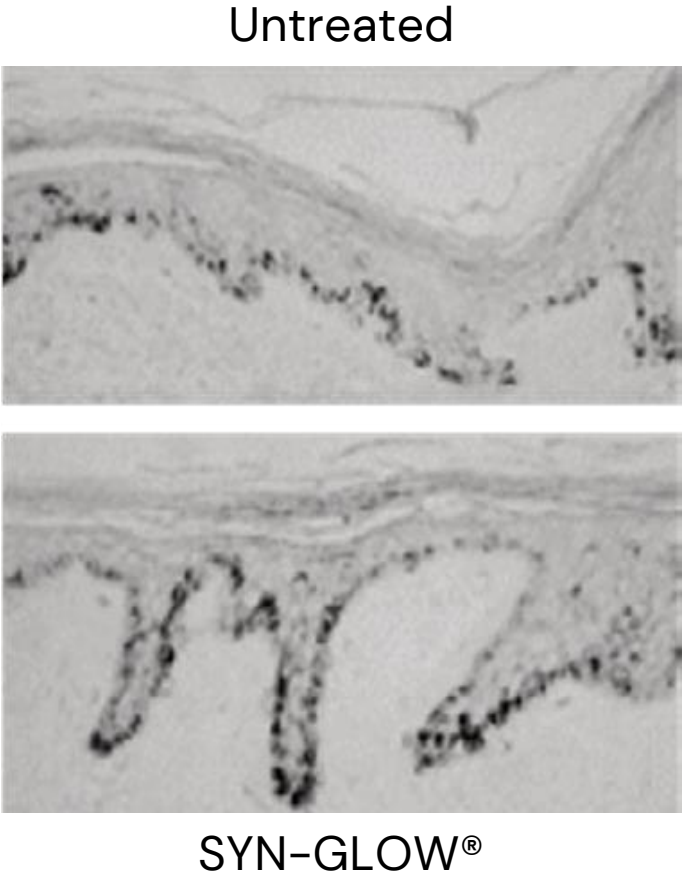
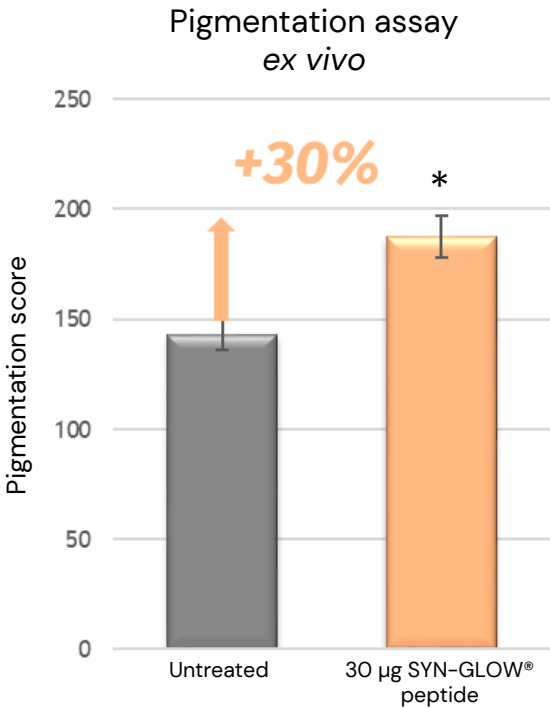
TIME Magazine
<https://time.com/4311822/gene-aging/>

Scientific publication about an interesting observation: people with non-functional MC1R gene appear older than people with functional MC1R.



The efficacy of SYN-GLOW® has
been proven ex vivo and in vivo
with amazing results

Significant *ex vivo* activity for SYN-GLOW®

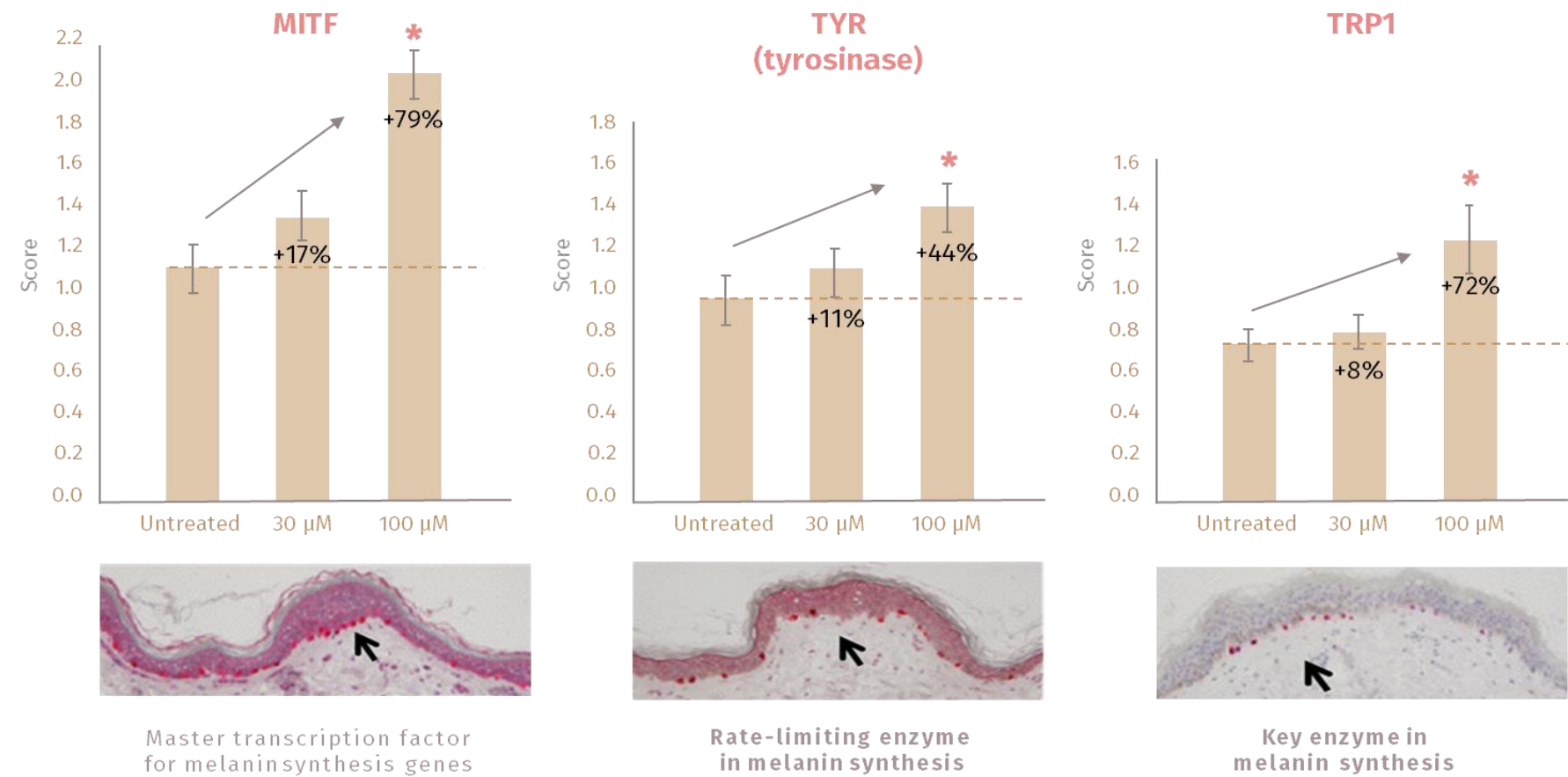


Up to +30% significant
more pigmentation

* $p < 0.05$ vs Untreated

Scientific Validation *EX VIVO*
Ex-vivo sample shown is from 47y.o female donor abdominal skin (ITA angle 18) with no light exposure

Significant *ex vivo* activity for SYN-GLOW®

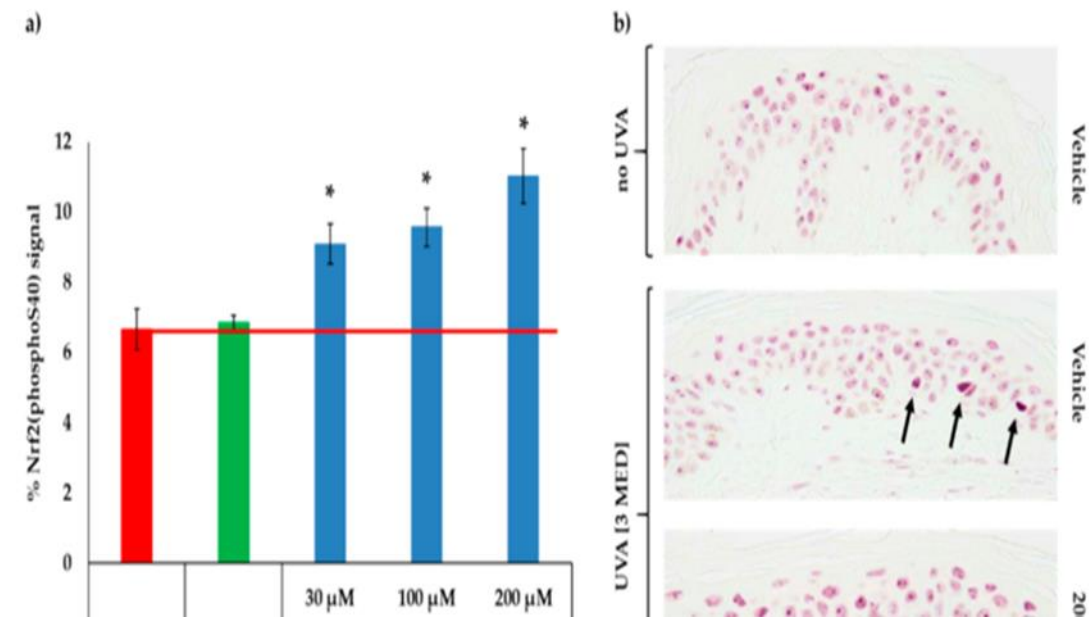
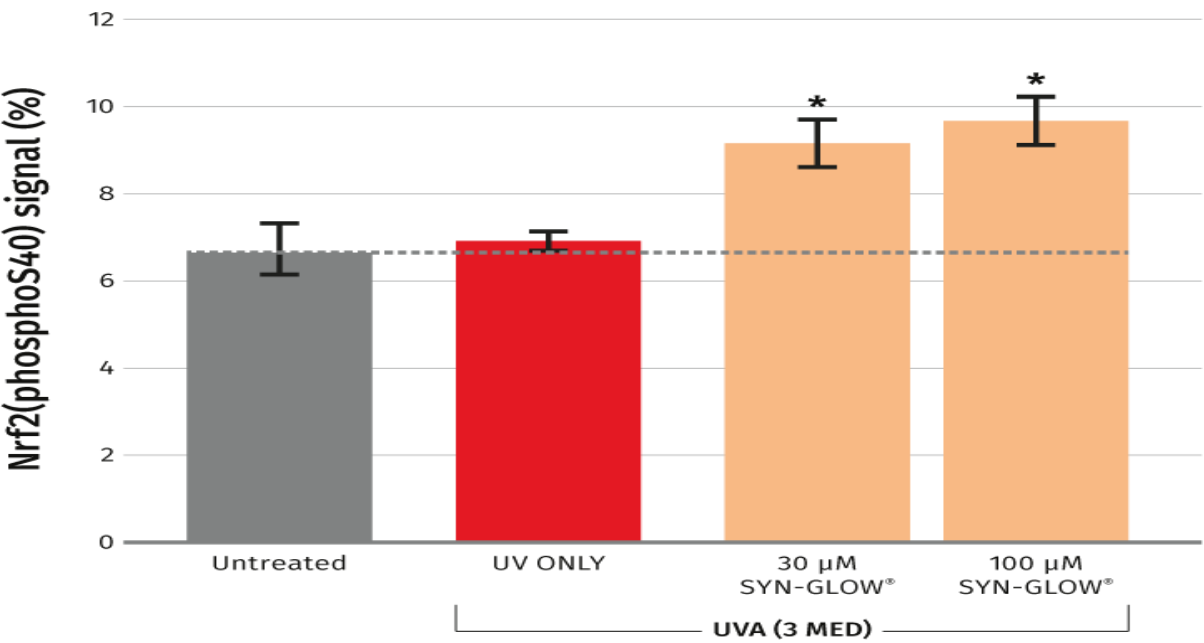


Significantly boosting
key regulators of
Melanin synthesis

Scientific Validation *EX VIVO*
Melanin synthesis activation is related to scientific evidences (ex vivo) and is not intended to be final product claim

Proved to strengthen skin's defenses from within

SYN-GLOW® stimulates anti-oxidant defense factor (Nrf2) after UVA-irradiation



Scientific Validation *EX VIVO*
 * p < 0.05 vs UVA-irradiated vehicle by unpaired Student's t-test.

In vivo study

29 Volunteers application at inner forearm of 3% SYN-GLOW®

Product application phase (2 times per day)																		Post application phase						
Day		0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
ITA Measure & Photo		ITA	«Real life» simulation*				ITA					ITA					ITA & Photo							ITA

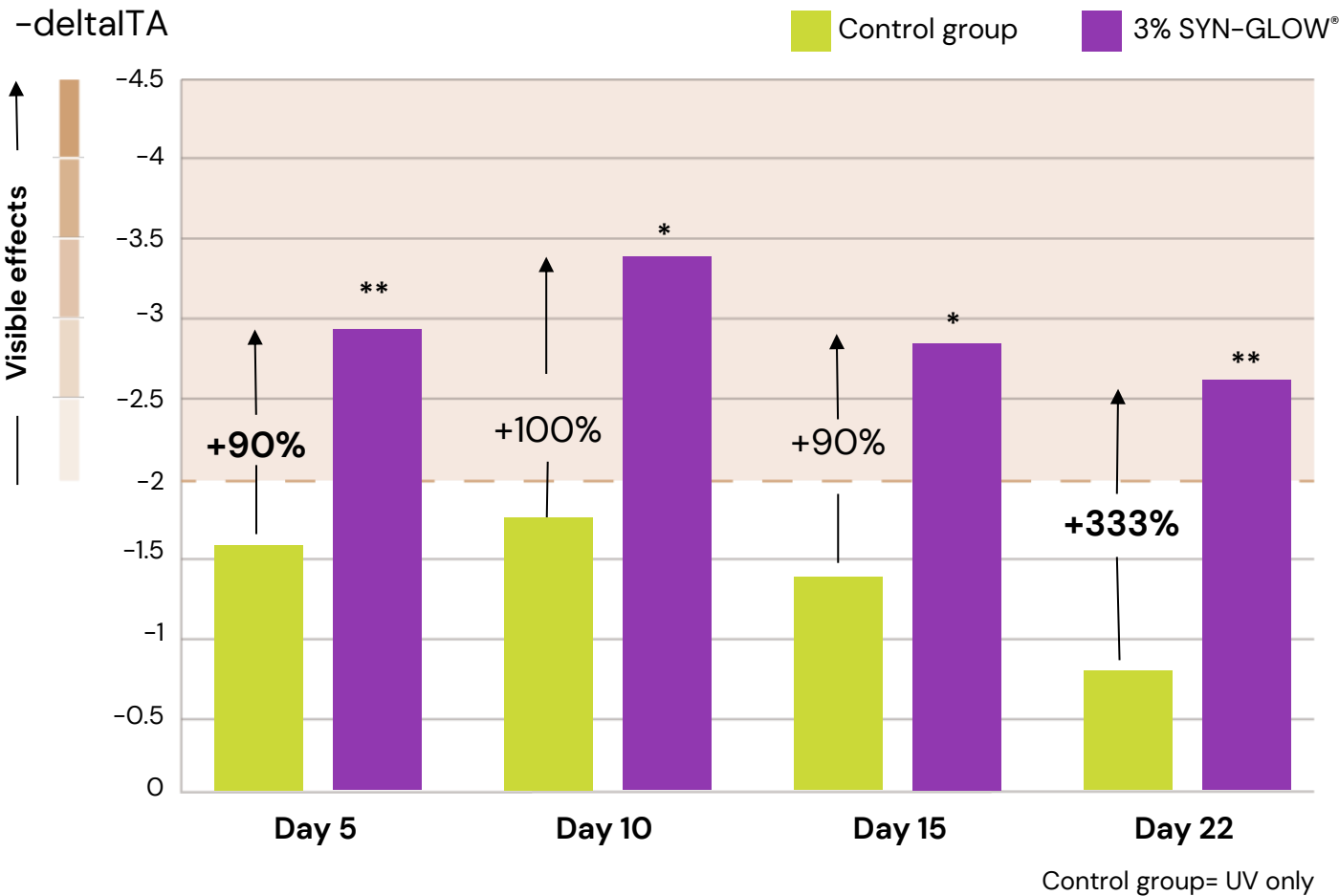


Overall set-up

- Pre-conditioning phase: product application, no UV exposure
- Day 1-4: product application, UV exposure
- Day 5-15: product application, no UV exposure
- Day 15-22: no application, no UV exposure

Scientific Validation *IN VIVO*
 *We exposed skin to some UV light, in order to simulate "real life". UV exposure was done with a sunlight simulator, 40% below the minimal erythral dose (MED): this roughly corresponds to 15-30min outdoor, during avg Spring day in mid-European Country

Outstanding *in-vivo* results!
SYN-GLOW® delivers visible healthy tone in just 5 days
with long-lasting effect



* p<0.05 against Untreated skin «significant»
** p<0.01 against Untreated skin «highly significant»



Personalized glow boost with SYN-GLOW®
Skin images taken from test area, at Day 15

Subject 1

Subject 2

Subject 3

Subject 6

Subject 14



Control group, UV only



3% SYN-GLOW®

Amazing feedback after application

Consumer's feedback:

100% of consumers

noticed their skin looking fresher and more revitalized

Over 90% of consumers

noticed their skin looking less dull and tired

Over 80% of consumers , 3X more

noticed a facial healthy glow

Close to 70% of consumers

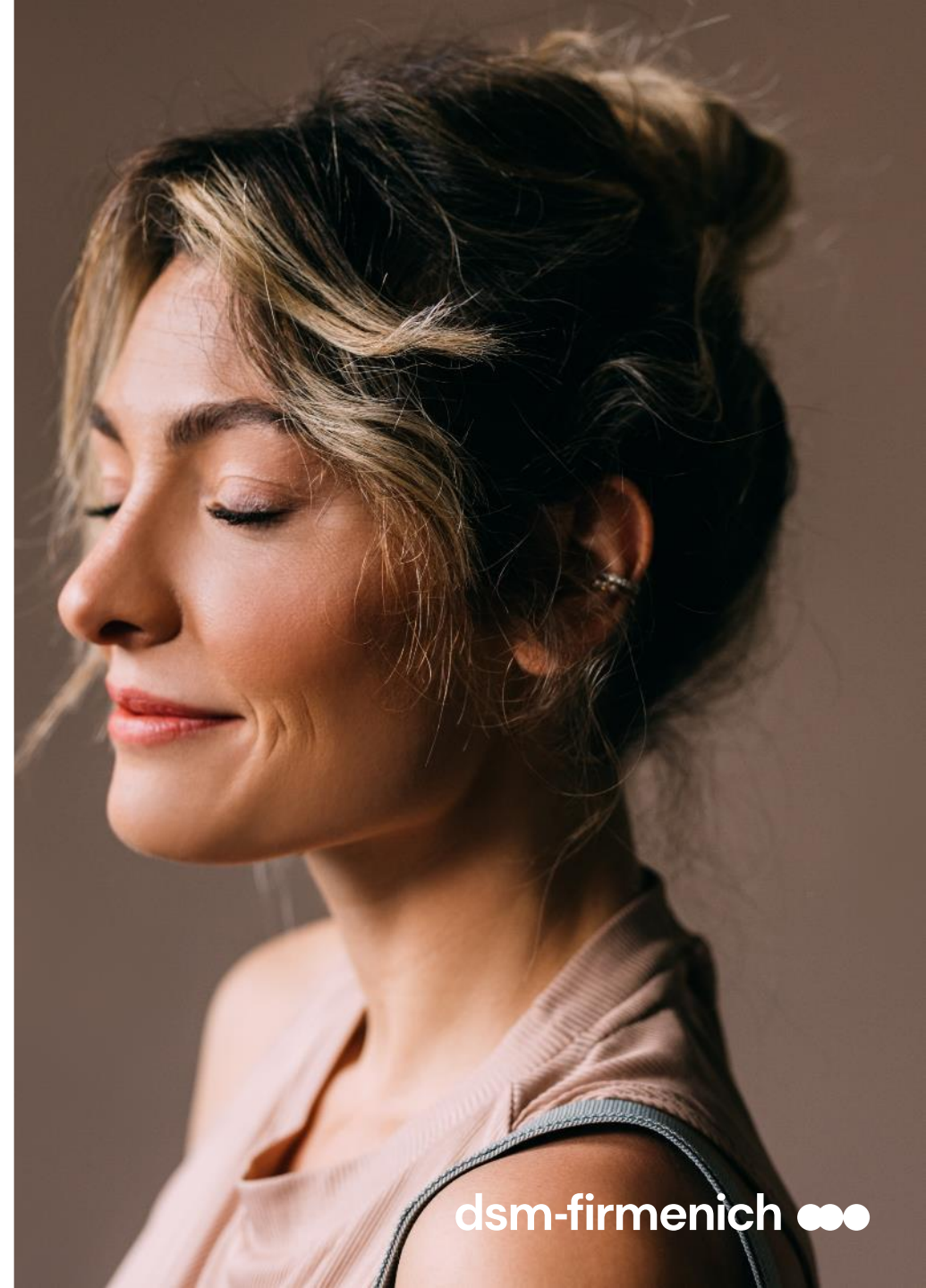
noticed their skin tone more even and homogeneous

Over 80% of consumers

would use this product again

Qualitative questionnaire

Clinical study, 16 female volunteers, 20–55 y.o., phototype II – IV, with planned outdoor activities. SYN-GLOW® containing formulation was applied on the face twice per day





SYN-GLOW®

Speeding up time to market



Finished product concepts featuring SYN-GLOW® showed significantly higher purchase intent versus simple moisturiser benchmark (w/o SYN-GLOW®)

(Source: DSM Global Survey via Tuluna - 6.000 responders)

Supported claims

- Natural healthy glow in just 5 days
- Prolonged summer bronze
- Personalized result, bespoke complexion
- Strengthened skin natural defenses from within



Technical details

Origin

Synthetic pentapeptide with a unique amino acid sequence

Composition

- INCI name (active): Benzoyl Dipeptide-18
D-Phenylalanyl Arginyl D-Tryptophan Dipropylamide Mesylate
- Content of active material: approx. 1000 ppm
- Vegetable glycerin-based aqueous solution
- No preservatives
- PEG free
- Vegan friendly

Manufacturing process

Made by cutting-edge pentapeptide technology

Recommended dosage

1 – 3%



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