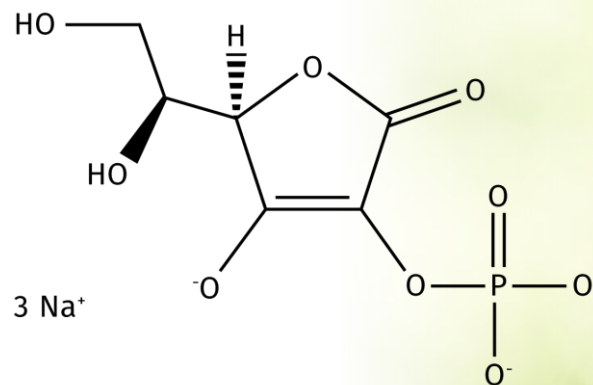


STAY-C® 50 – the all-round naturally derived beauty solution for skin perfection

INCI: SODIUM ASCORBYL 2-PHOSPHATE

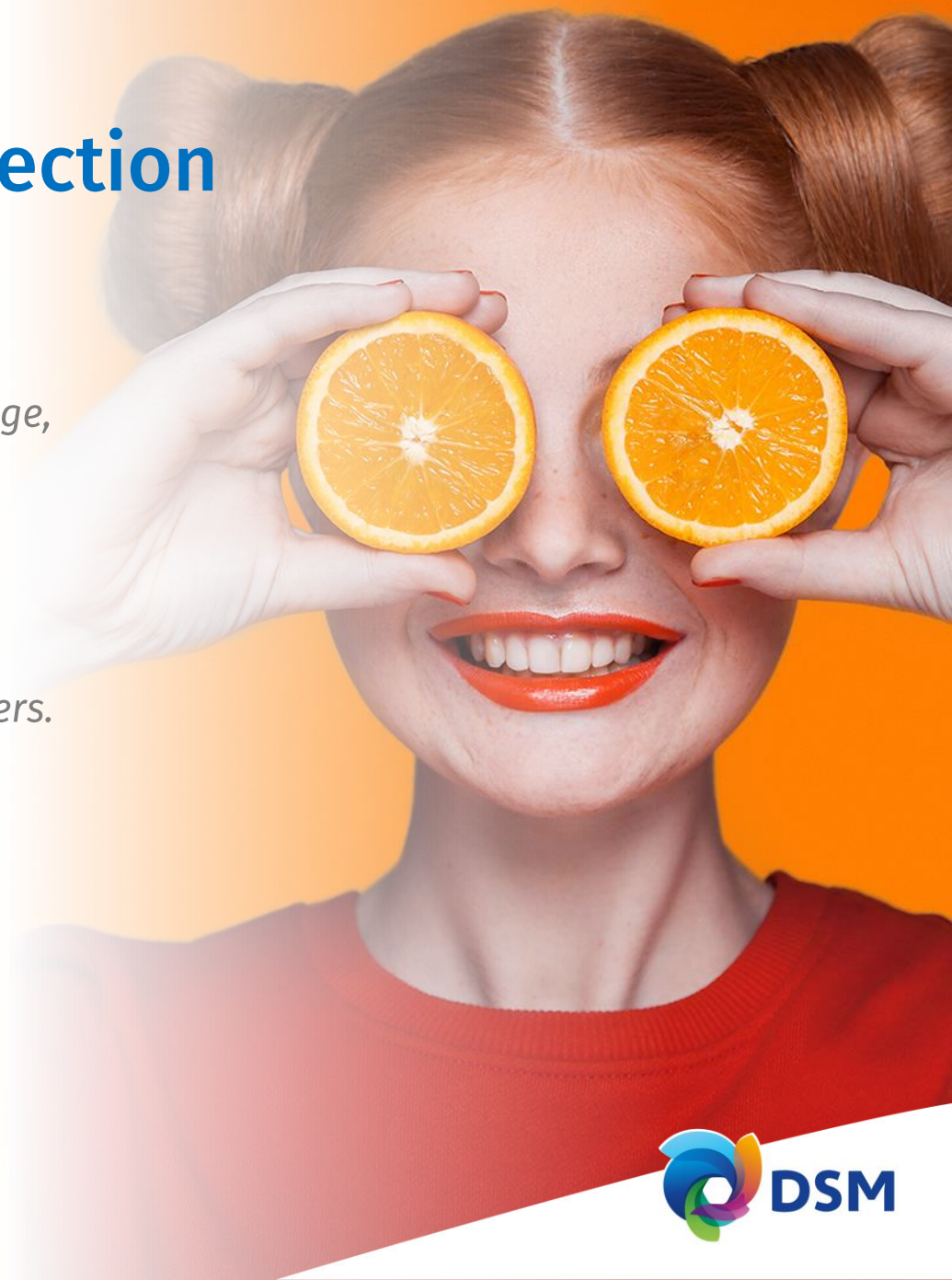
- Water soluble cosmetic Vitamin C specialty
- 100% naturally derived (renewable carbon)
- A powerful *in-vivo* anti-oxidant and free radical scavenger but our studies have proven that its efficacy profile is by far broader!
- Quickly and fully bio-converted into ascorbic acid in the skin
- Recommended dosage: 0.1-15%



STAY-C® 50 – the all-round naturally derived beauty solution for skin perfection

To ensure better stability of Vitamin C, DSM developed STAY-C®50

- *A multi-talented active addressing almost every skin concern: UV damage, skin ageing, dull complexion, age spot, acne and hair loss with proven activity!*
- *Overperformance in melanin synthesis inhibition and antioxidant properties vs other derivatives*
- *Quickly and fully bio-converted into ascorbic acid in the upper skin layers.*
- *Easy to formulate, very stable at pH≥6*
- *Use level up to 15%*
- ***Many cosmetic applications***
 - ❖ Day care products
 - ❖ Sun care products
 - ❖ Clarifying perfection products (anti-acne)
 - ❖ Anti-ageing products
 - ❖ Skin tone application
 - ❖ Oral and body care



STAY-C® 50: the all-round naturally derived beauty solution for skin perfection

Biological Concepts

Counteracts skin oxidation:

- Neutralization of UV-induced ROS
- Reduction of peroxides formation

Promotes collagen production (dermis)
Strengthens skin's barrier (epidermis)

Decreases melanin synthesis and reduces age spot

Improves the appearance of acne inflammatory lesions

Limits the growth of oral bacteria

Promotes elongation of hair follicle

Consumer Benefits



Photoprotection from UVA & UVB

Reduction of photodamage



Anti-ageing

Improvement of skin firmness and texture



Evens the skin tone and skin lightening



Cosmetic treatment of acne-prone skin



Support of healthy teeth and gum



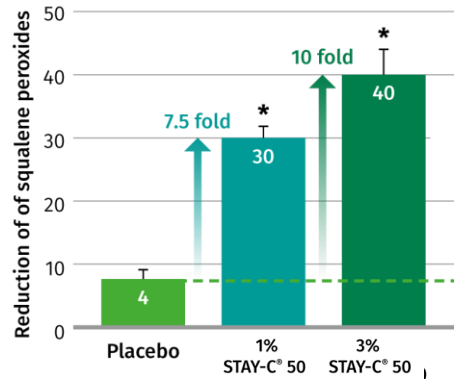
Stimulation of hair growth

Overview of STAY-C® 50 efficacy

Anti-oxidant & photoprotective



Reduction of lipid peroxides formation (%)



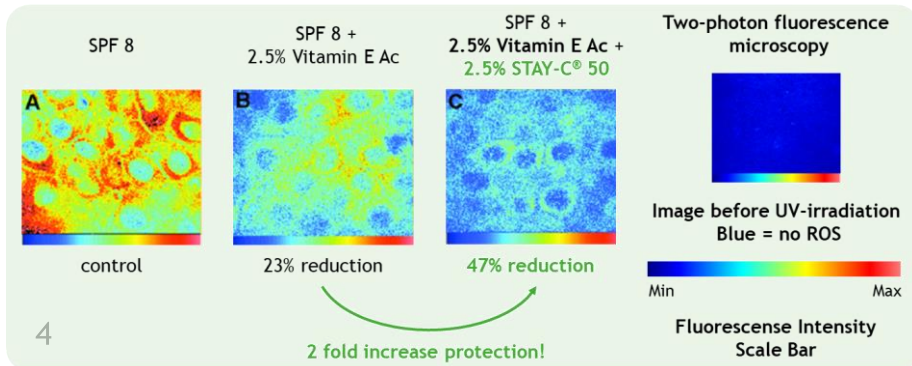
* $p < 0.05$ versus placebo

3% STAY-C® 50 significantly reduces the UV-induced lipid peroxides up to 40% (*in vivo*)

20 volunteers
7 days prior UVA-irradiation twice daily

2.5% STAY-C® 50 doubles the UVA/UVB protection of sun filters and Vitamin E (*ex vivo*)

Image of live human skin showing the effect of three products on reduction of ROS after UV irradiation (1600J/m²)

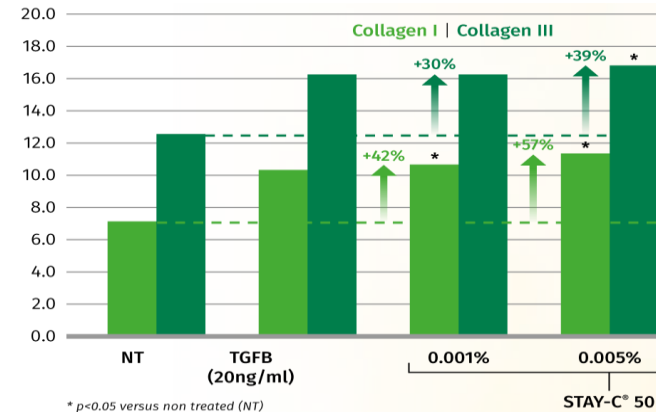


Ex vivo human skin (breast and facial), 2 individuals
Formulations applied for 3h

Anti-ageing



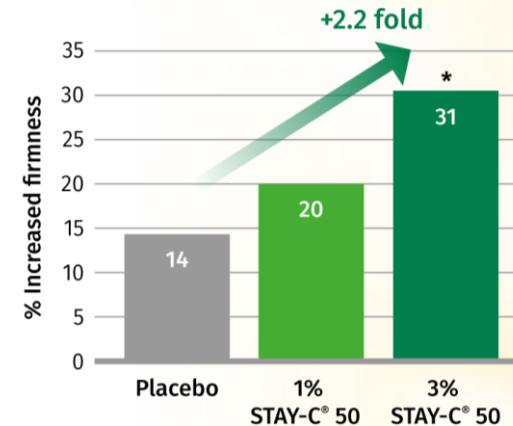
Collagen production (ratio collagen/total protein)



* $p < 0.05$ versus non treated (NT)

STAY-C® 50 significantly promotes collagen I (+57%) and collagen III (+39%) synthesis in human fibroblasts (*in vitro*)

Measurement of firmness by cutometer on inner forearm



* $p < 0.05$ versus placebo

3% STAY-C® 50 significantly doubles the skin firmness increase (*in vivo*)

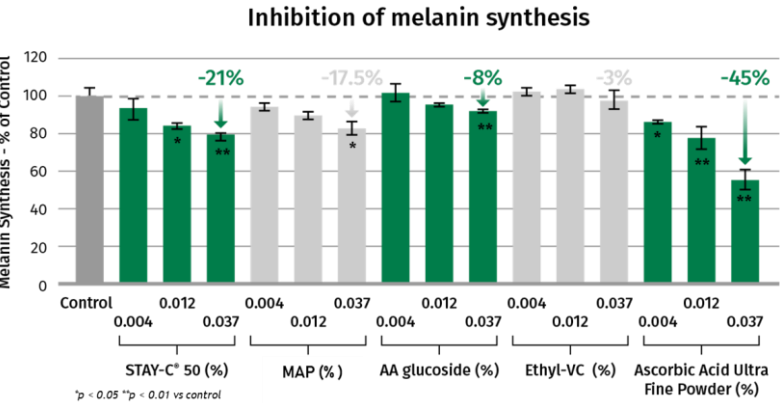
20 volunteers
Product twice daily over 42 days



Overview of STAY-C® 50 efficacy

Skin lightening

STAY-C® 50 reduces melanin synthesis by 21% (*in vitro*) and is superior to other stable vitamin C derivatives

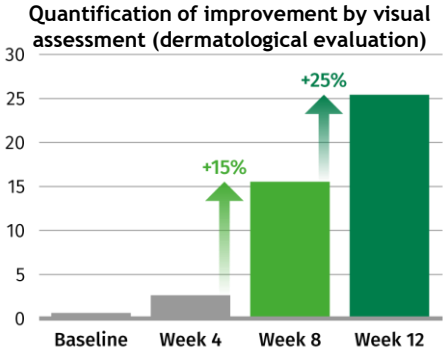


NHEM-LP Melanocytes
Different Vitamin C
forms, 10 days

3% STAY-C® 50 reduces the color intensity of age spots by 25% in 3 months (*in vivo*)

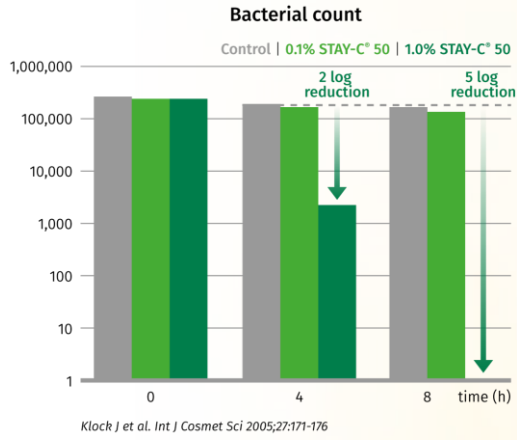


Photographic evidence of spot reduction



39 female volunteers
Test cream with 3% STAY-C® 50 and
1% Vitamin E acetate
12 weeks, twice daily application

Reduces the appearance of acne prone skin



1% STAY-C® 50 inactivates
Cutibacterium acnes by 5 log
in 8 hours (*in vitro*)

Cultivation of Cutibacterium acnes
0.1 and 1% STAY-C® 50

Efficacy assessment of STAY-C® 50: skin
improvement (dermatological evaluation)



Evidence of skin appearance improvement

5% STAY-C® 50 improves
skin condition of acne
vulgaris by 77% in 12 weeks
(*in vivo*)

2x30 patients with acne
5% STAY-C® 50
12 weeks treatment

