



# Delentigo™

## The age spot solution

# Characteristics of Age Spots / Senile Lentigo



- Found on UV-exposed areas of the skin
- Diameter: 1 mm - few cm
- Color: light brown – black
- More than 90% of Caucasian subjects over age 50 are affected by age spots

# Characteristics of Age Spots



On age spots

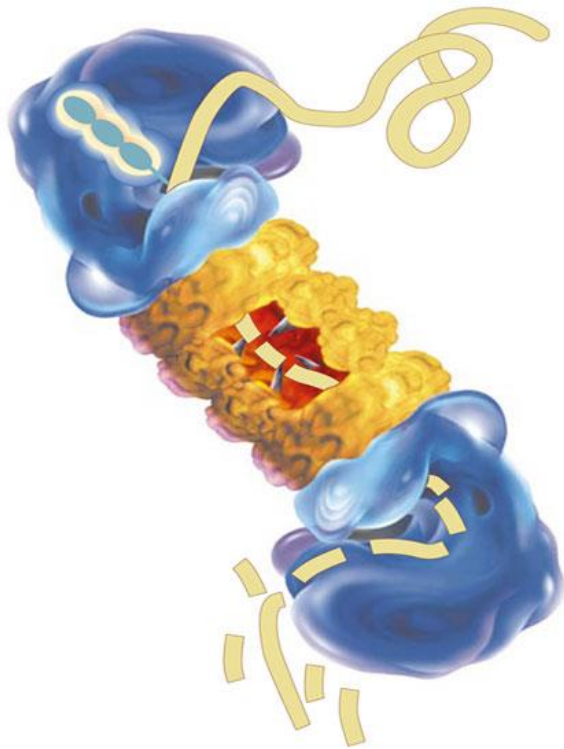
- number of melanocytes is enhanced
- production of 2 pigments is increased:
  1. Lipofuscin
  2. Melanin

# 1. Lipofuscin



- Yellow-brown pigment
- Made of oxidized proteins and lipids
- Present in all cells
- Accumulates with age (“age pigment”)

# 1. Lipofuscin Degraded by Proteasomes



## Proteasome

- Cell's own cleaning system
- Degrades damaged and oxidized proteins

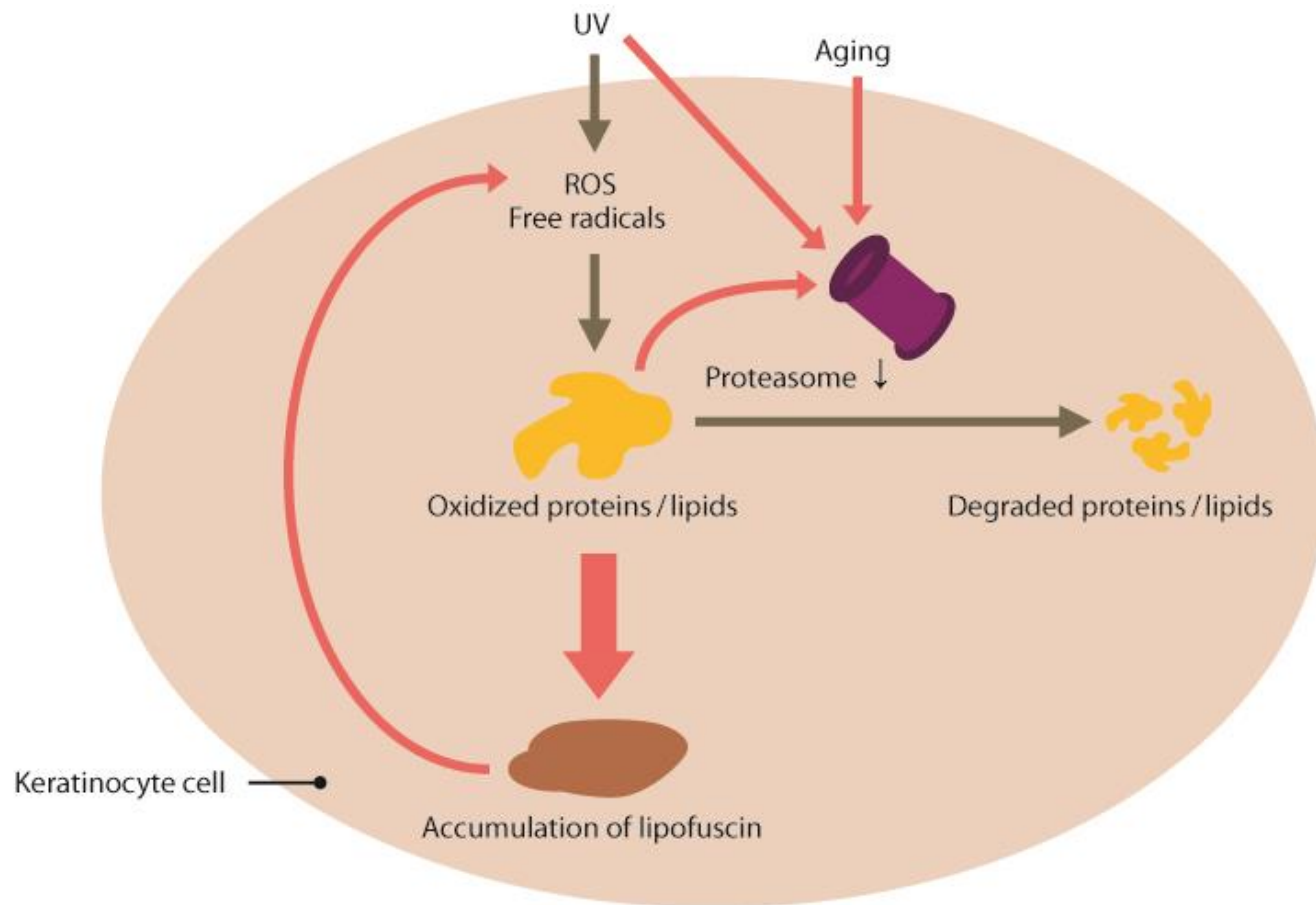
But:

- Activity declines with age
- UV irradiation impairs its functioning

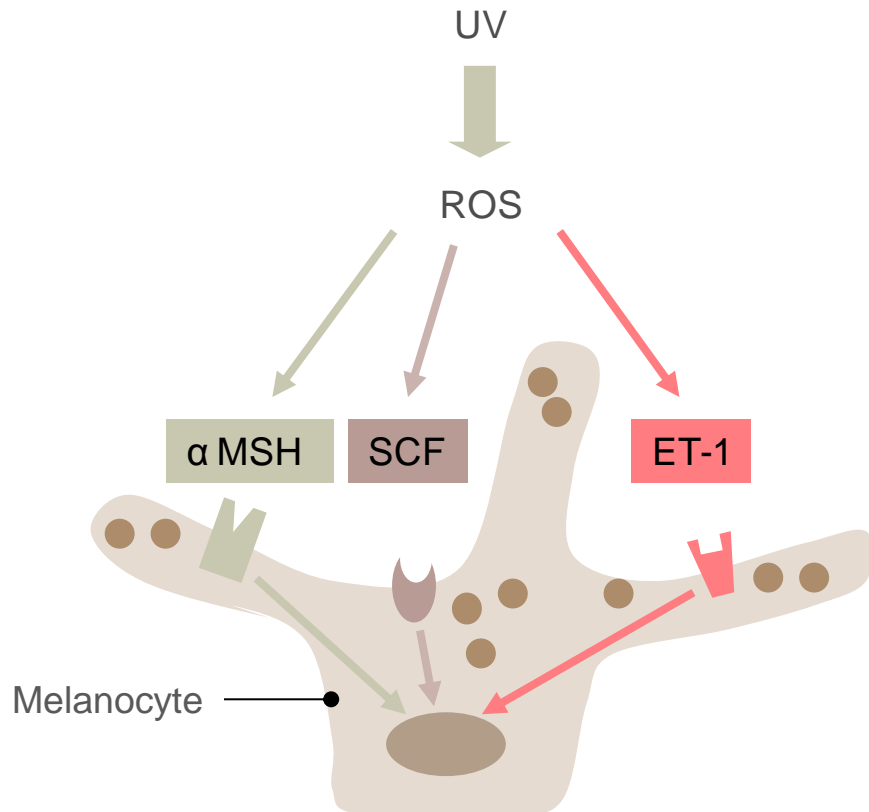


Lipofuscin accumulates progressively during aging

# 1. Lipofuscin Formation



## 2. Melanin Overproduction in Age Spots



- UV light → keratinocytes produce the signalling molecule  $\alpha$ -MSH, endothelin-1 (ET-1) and stem cell factor (SCF)
- $\alpha$ -MSH activates the melanocyte
- SCF and ET-1 stimulate melanocyte development, melanin production and promote dendrite formation
- SCF and ET-1 are found in higher concentrations in age spot areas → more melanin



# Active Components of Delentigo™ Garden Cress Sprout Extract



- Rich in sulforaphane (phytonutrient able to neutralize reactive oxidants)
- “Second generation” antioxidant (stimulates the cells’ antioxidant system)
- Stimulates the proteasome activity
- Inhibits the  $\alpha$ -MSH-induced melanin synthesis

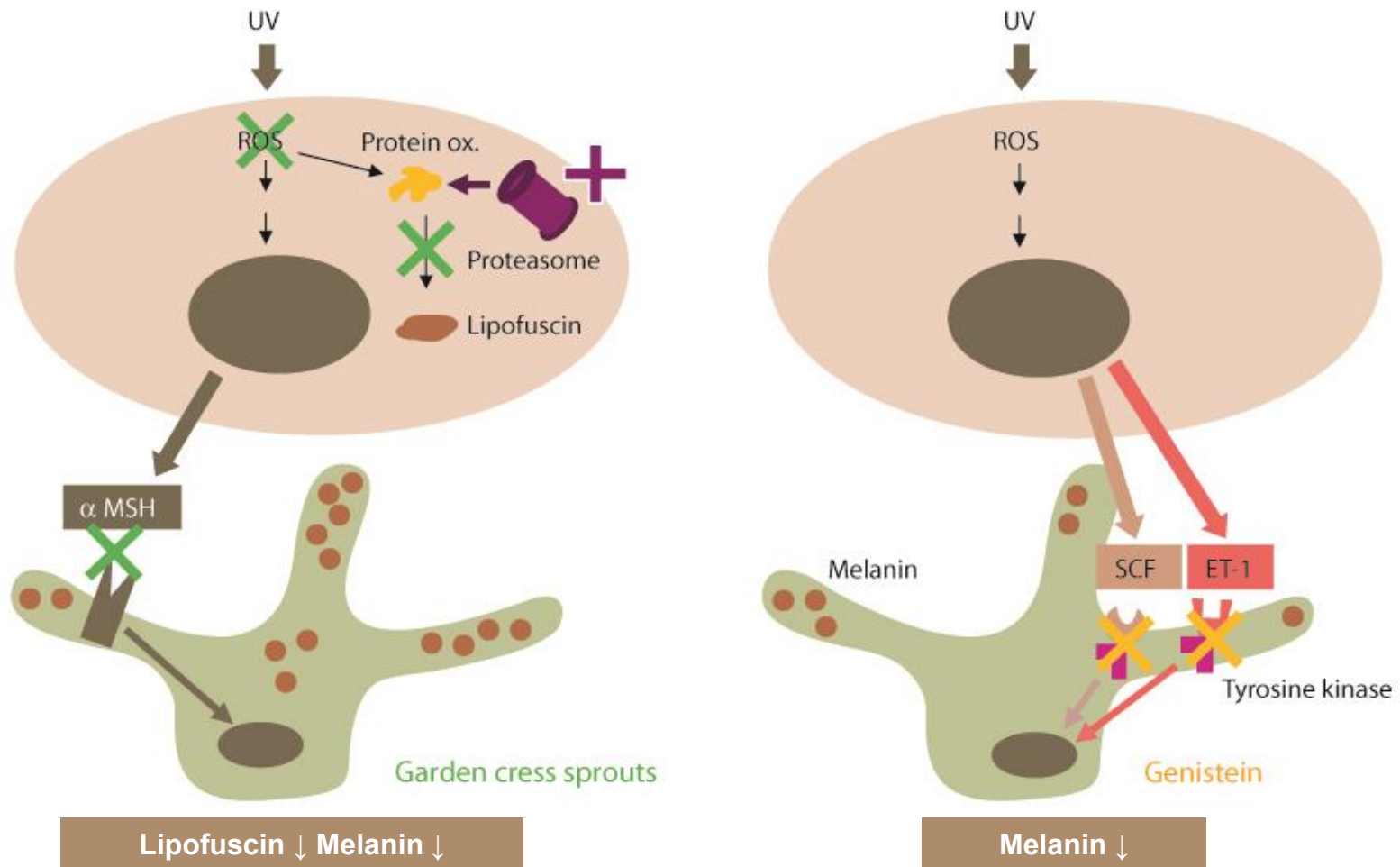


# Active Components of Delentigo™ Genistein (Aglycone Form) from Soy



- Most abundant isoflavone in soy
- Anti-aging (collagen booster)
- Antioxidant and anti-inflammatory activities
- Inhibits the tyrosine kinase

# Synergistic Activity of Delentigo™



Keratinocyte cell

Melanocyte cell

# Composition of Delentigo™



- BIO Swiss cress sprout extract
- Pure genistein from soy (aglycone form)
- ▭ Liposomal bilayer (lecithin)

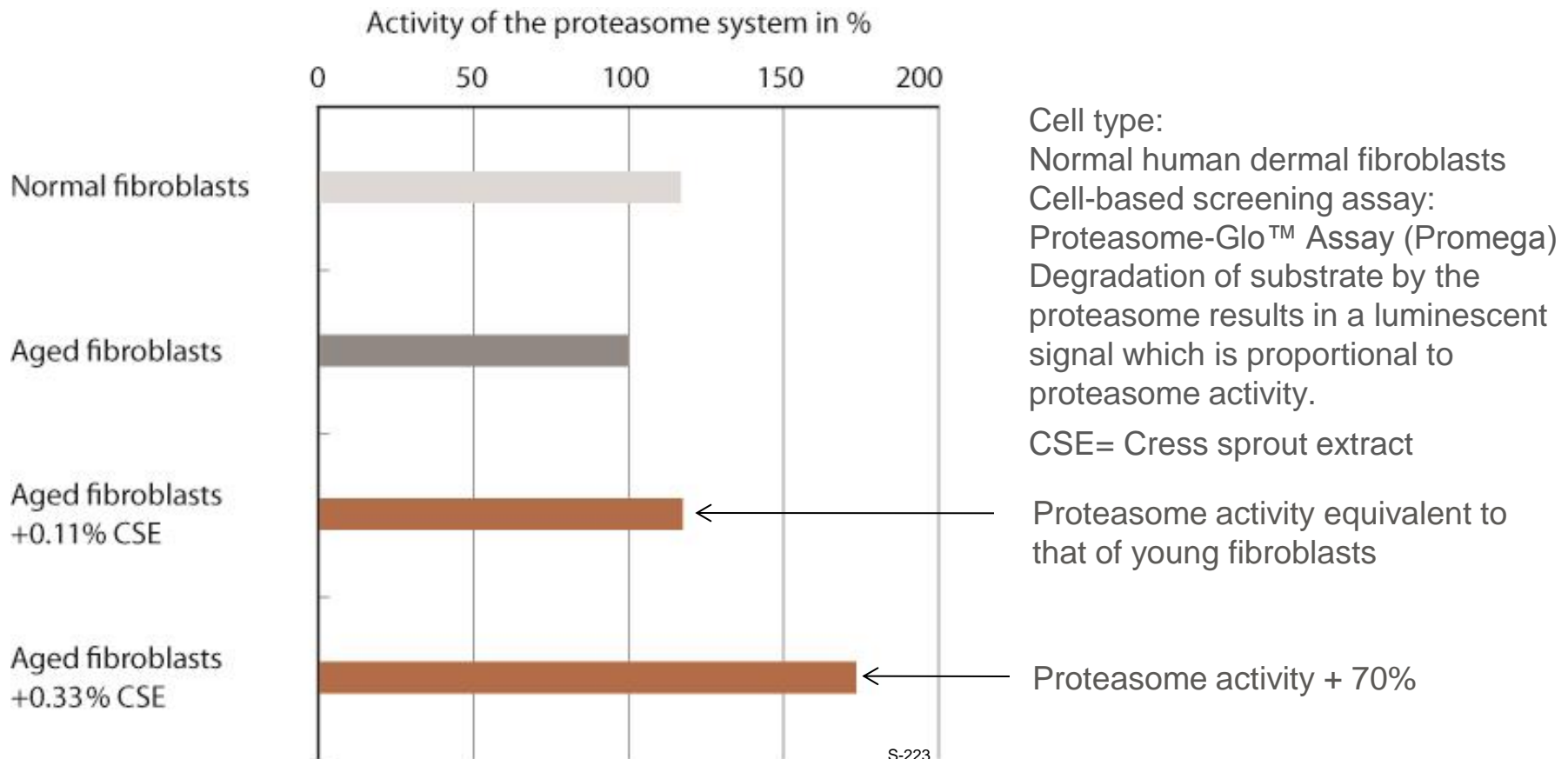
# Delentigo™ Composition

Lepidium Sativum Sprout Extract	37%
Genistein	>0.14%
Lecithin	2.8 %

## INCI / CTFA

Lepidium Sativum Sprout Extract (and) Lecithin (and) Soy Isoflavones (and)  
Polysorbate 80 (and) Alcohol (and) Glycerin (and) Phenoxyethanol (and)  
Aqua/Water

# Stimulation of the Proteasome Activity



# Selective Depigmenting Effect



Test product: 4% Delentigo™ cream

Test area: hands

Skin type: Caucasian

Test period: winter

Number of volunteers: 10

Age of volunteers: 47-77

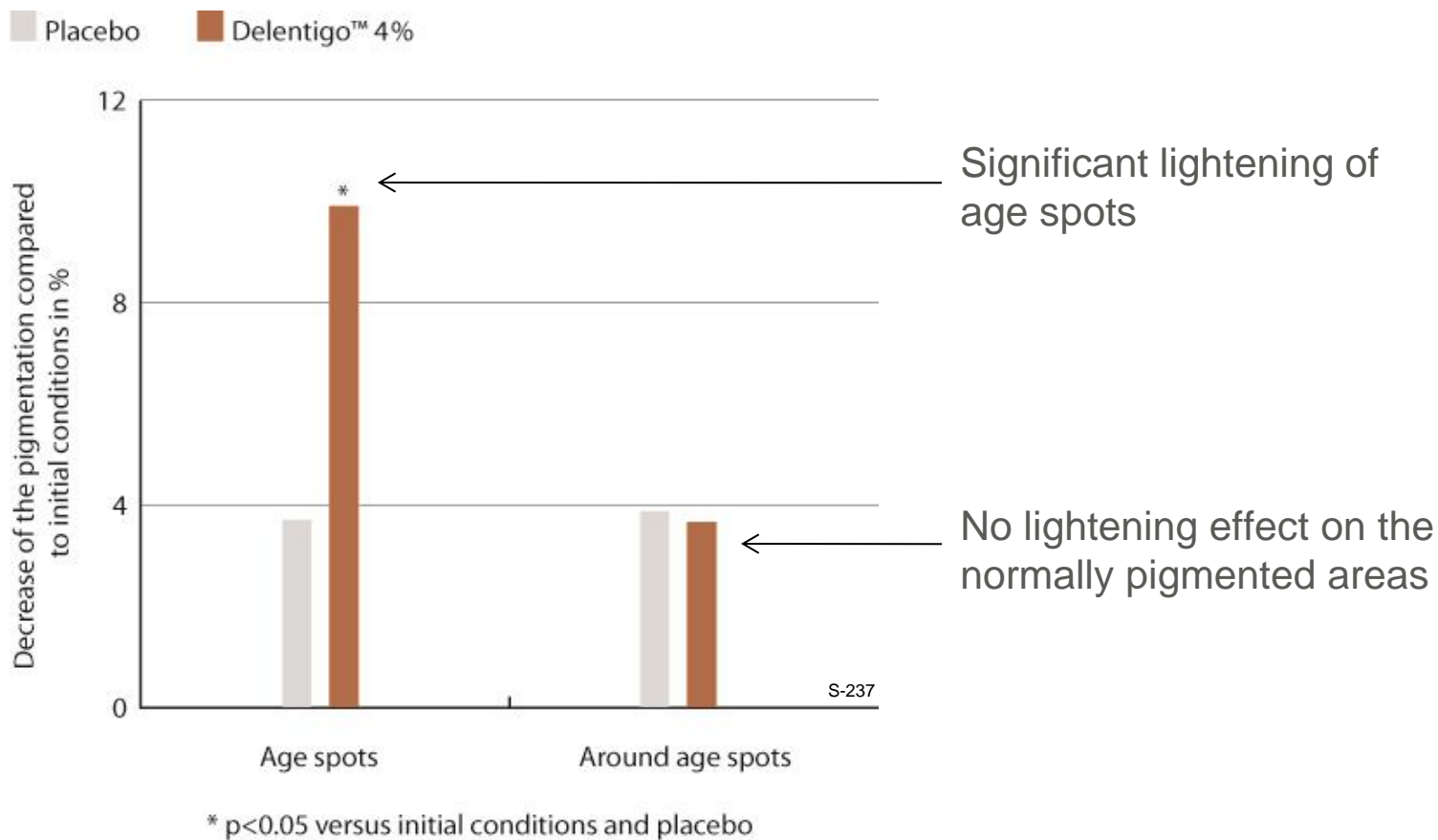
Application: twice daily for 4 weeks

Instrument: Skin Pigmentation Analyzer®

2 types of measure:

- 3 age spots / hand
- 3 spotless areas located at the side of the measured spots

# Targeted Lightening of Age Spots





# A More Even Skin Tone



Test product: 4% Delentigo™ cream

Test area: hands

Skin type: Caucasian

Test period: after summer

Number of volunteers: 12

Age of volunteers: 40-66

Application: twice daily for 8 weeks

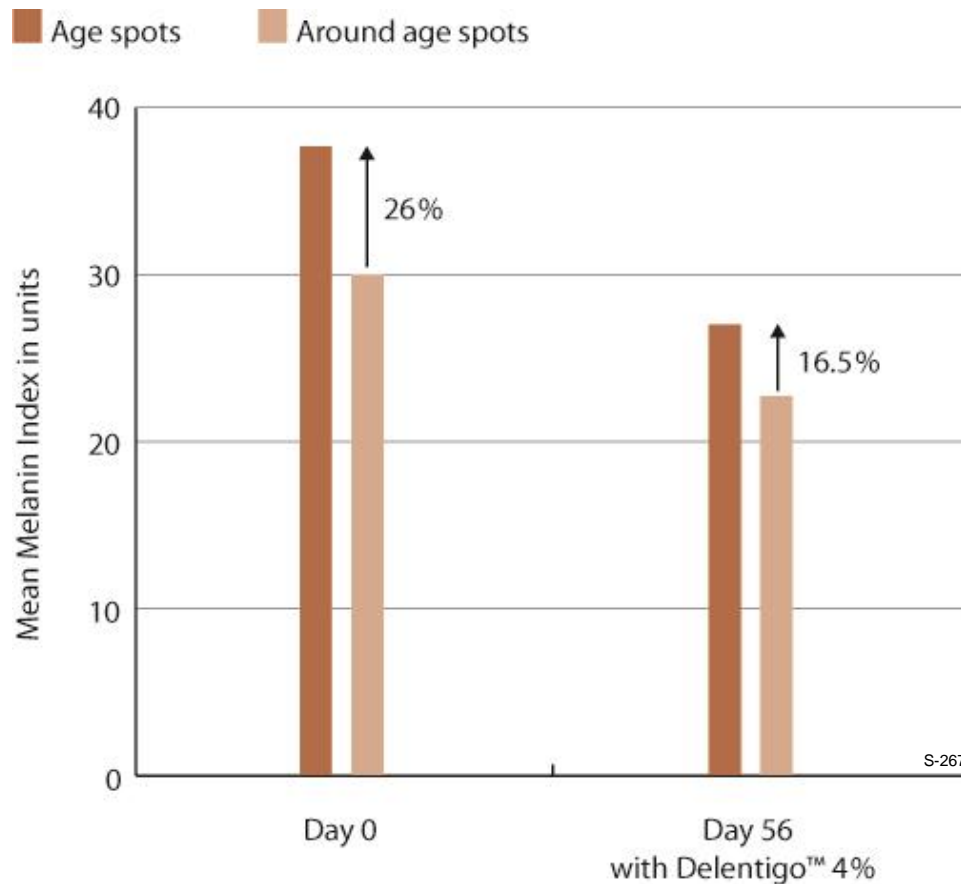
Instrument: Skin Pigmentation Analyzer®

2 types of measure:

● 4 age spots / hand

○ 4 spotless areas located at the side of the measured spots

# A More Even Skin Tone



The difference between the pigmentation of age spots and of the normally pigmented skin is reduced by about **50%**.

# Visible Reduction of Age Spots



Before  
(Day 0)



After  
(Day 56)  
Delentigo™ 4 %

# Delentigo™: Summary

Delentigo™ is a combination of 2 active substances:

**Swiss garden cress sprouts** + **Genistein** in a vector system

Delentigo™ lightens age spots by:

- preventing and regulating the formation of melanin + lipofuscin
- activating the proteasome that breaks down lipofuscin

Efficacy

- visibly lightens age spots
- equalizes the skin tone by fading age spots



Delentigo™ can be applied all over the face in contrast to classical whitening actives which have to be applied only to the spots

# Claim Ideas for Delentigo™



- Creates an even skin tone
- Visibly reduces age spots
- Prevents photo-aging and dark spots

# Delentigo™ Applications



- Anti-aging products with correction of age spots
- Targeted treatment for dark spots
- Lightening formulations for discoloration
- Hand care products

# Delentigo™ Marketing Benefits



- Targeted lightening effect
- Time-released activity thanks to the advanced vector system