

VC-H1®

Botanic
Collagen Peptides

Where Beauty *Blooms*

RAWGA



Content Page

- Market Research
- Introducing VC-H1
- Features & Benefits
- Studies
- Appendix

Collagen

11%

The global collagen market, (\$9.9bn in 2024) is projected to grow 11.3% annually through 2030.

35%

Year over year increase in searches for collagen across all platforms. A leading-edge indicator.

Sustainable

65%

65% of US consumers say they are seeking more environmentally friendly brands and products.

55%

55% of US consumers say they are willing to pay more for environmentally friendly products.

Health

47%

47% of global consumers express significant concern about the levels of UPFs in their diet.

38%

38% of global millennials eat a vegan meal at least 3 times a week, higher than any other age group.

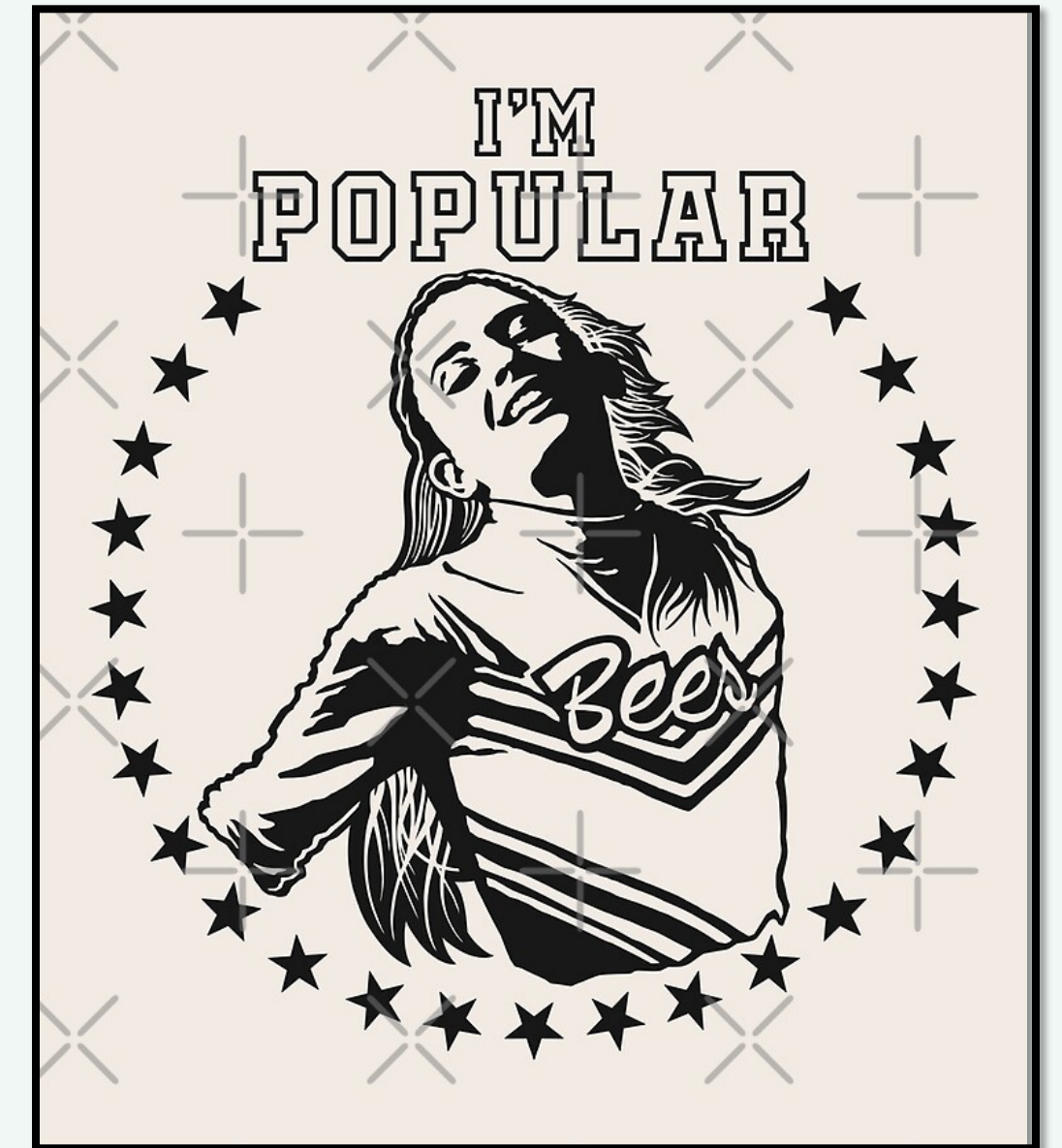
Popularity/Engagement

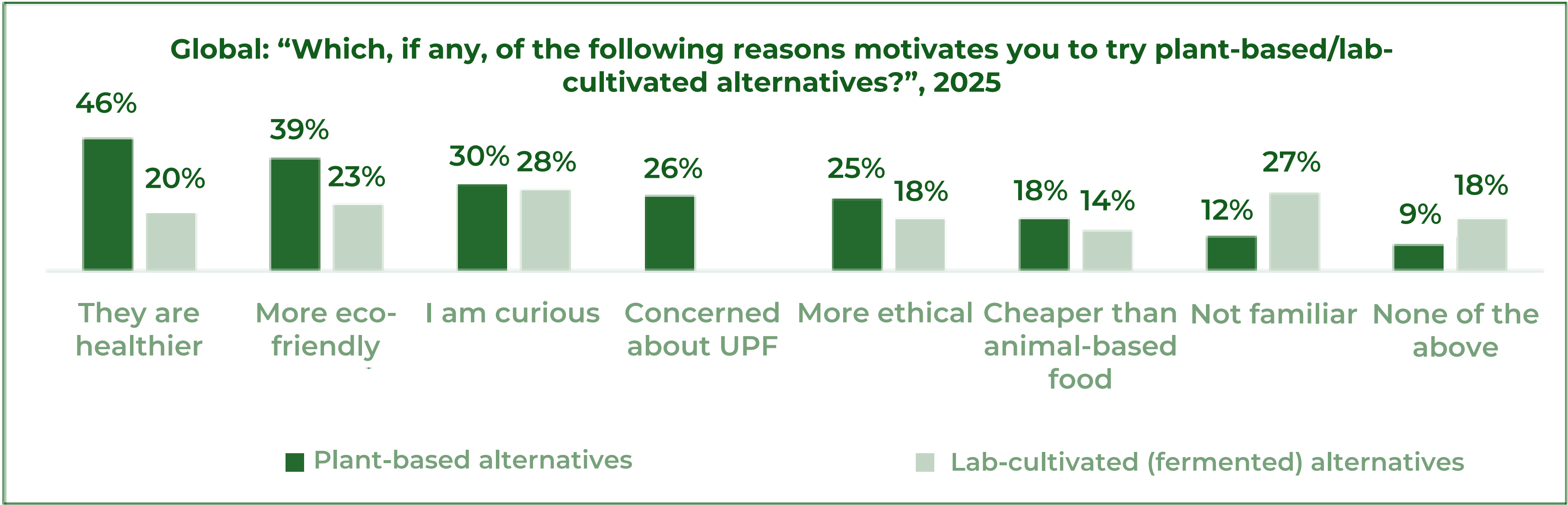
Beauty from Within

- ❑ Most Popular...By Far
- ❑ Second In Growth Rate

All Supplements

- ❑ Second in Overall Popularity
- ❑ First in Popularity Increase





Peptides – Activated Interest

41% VMS customers report being 'somewhat more' or 'a lot more' aware of peptides than 5 years ago.*

550% Surge in consumer searches for 'peptides' in 2025 alone.*

What is a peptide?

- Peptides are mini-proteins that act like signals in the body.
- They are a source of amino acids, but specific peptides can activate cellular processes and provide health benefits by upregulating pathway with positive outcomes.

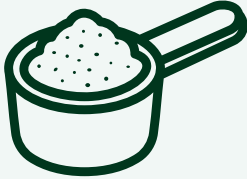
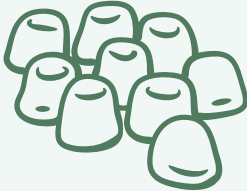
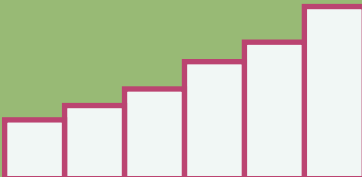
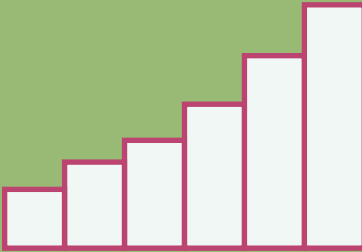
What are collagen peptides?

- Collagen is the most abundant protein in the body.
- Collagen peptides are smaller, easily digestible fragments that are created when collagen protein is broken down.
- Being smaller, they're easier for the body to absorb and use.

*Vitaminshoppe.com



RAWGA

	Market Share	Growth (CAGR)	Status & Future	VC-H1 Advantage
	~40%	3-5% 	Current leader. Flat growth expected.	
	~17%	5-8% 	Solid share and growth.	
	~25%	8-11% 	Expected to lead by 2026.	
	~10%	10-14% 	Rapidly growing subcategory.	
	~8%	N/A	Innovative formats see strong growth	



Introducing **VC-H1**[®]

Botanic Collagen Peptides

World's First Botanic Collagen Peptide

Hydrolyzed peptides of a collagen-like protein sourced from organically-grown hibiscus.

- **High Collagen Production Capacity** | Remarkably superior Type I collagen synthesis compared to animal-derived sources
- **Exceptional Antioxidant Content** | High levels of flavonoids and polyphenols for powerful protective anti-aging effects
- **Clinically verified 7-in-1 benefits** | Improving skin hydration, elasticity, wrinkles, and texture
- **Clean & Organoleptic** | Odorless with a clean taste and certified Vegan, Halal, Kosher. and pending Non-GMO

RAWGA

A Better Collagen

VC-H1®

VC-H1 is more than just a plant-based alternative, it's a better collagen.

1.5g Efficacious Dose
316 Da Molecular Weight
~90% Di- & Tri-Peptides

- ❖ VC-H1 stimulates collagen production at a higher rate even at 40% concentration.
- ❖ VC-H1 has a low molecular weight making it easily absorbed.
- ❖ VC-H1 has the added benefits of high antioxidant content.
- ❖ VC-H1 tastes and smells clean for easy adoption into multiple platforms.

Higher Collagen Synthesis

0.25g AC increased synthesis 10.15%

0.1g VC increased synthesis 16.87%

Better Absorption

AC molecular weight 1000 ~ 5000 Da

VC molecular weight 316 Da

VC-H1®

Antioxidant Effects

AC has nearly no flavonoids or polyphenols

VC is rich in flavonoids and polyphenols

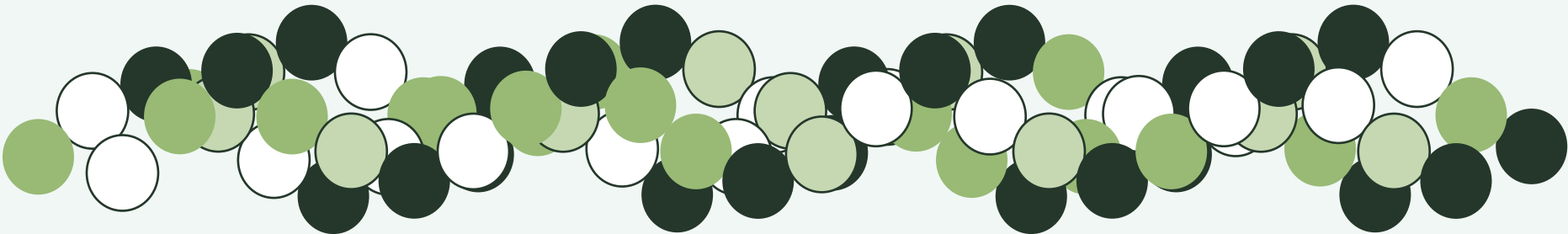
Taste and Safety

AC has poor taste and disease risk

VC has clean taste and no disease risk

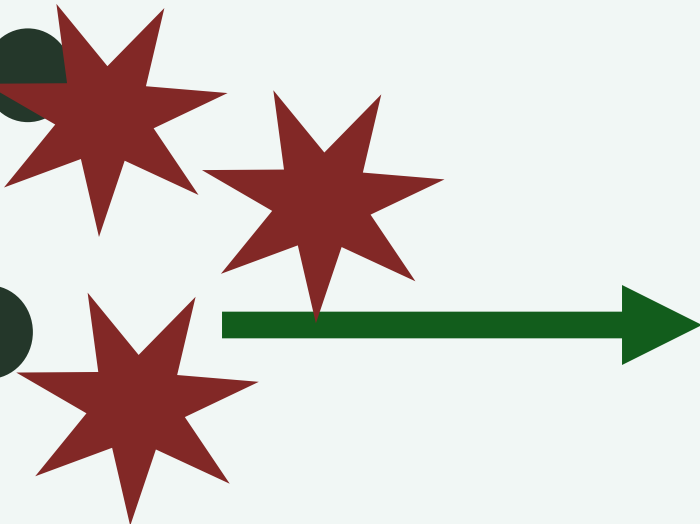
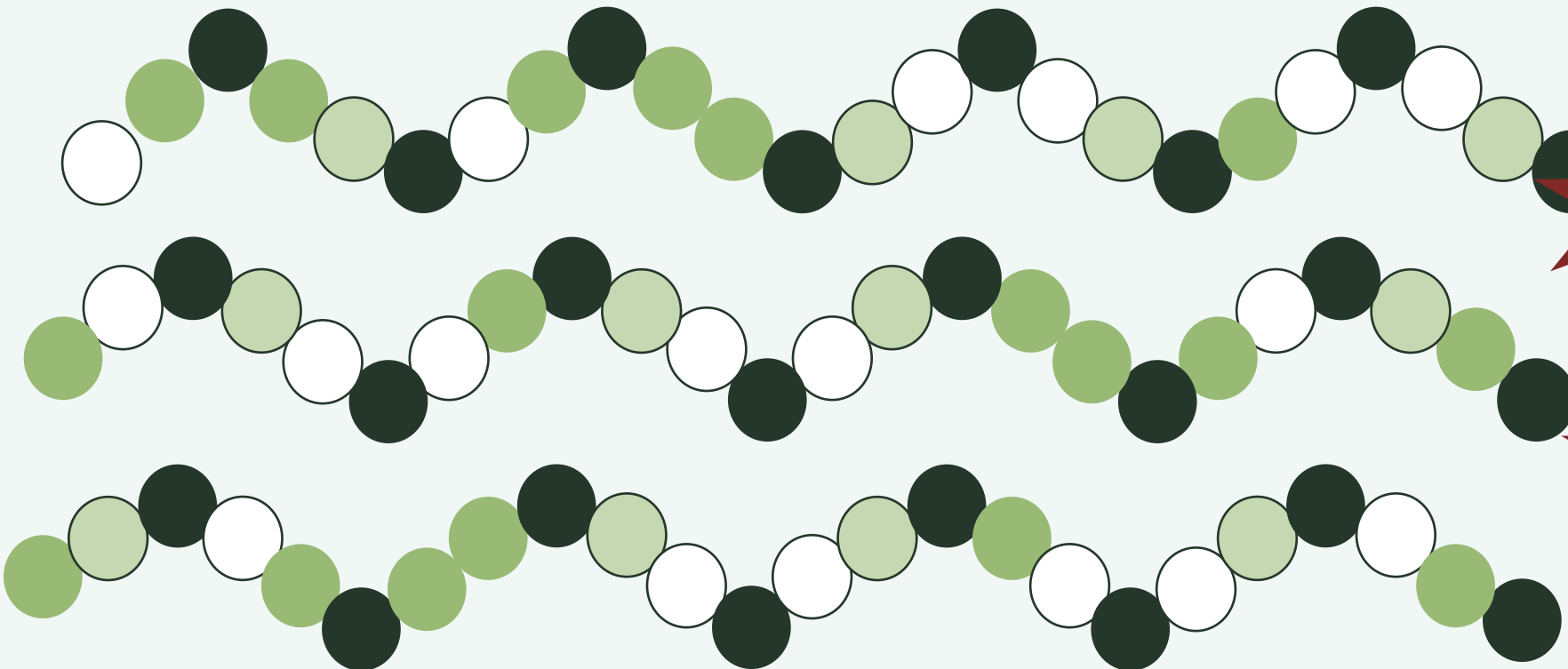
RAWGA

Collagen Structure

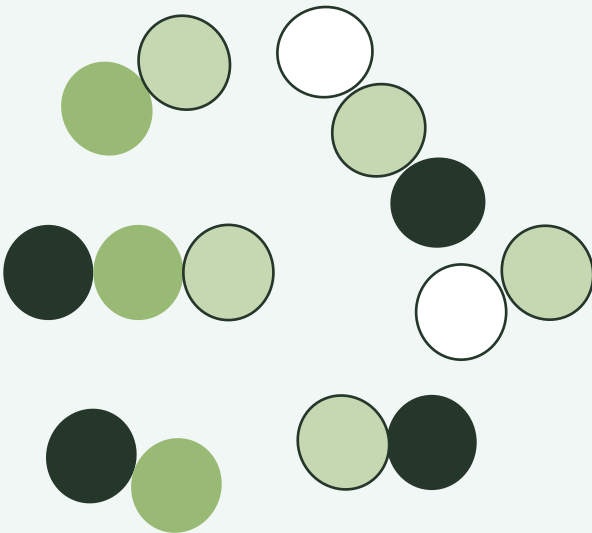


- Glycine
- Proline
- Hydroxyproline
- Other

Triple Helix



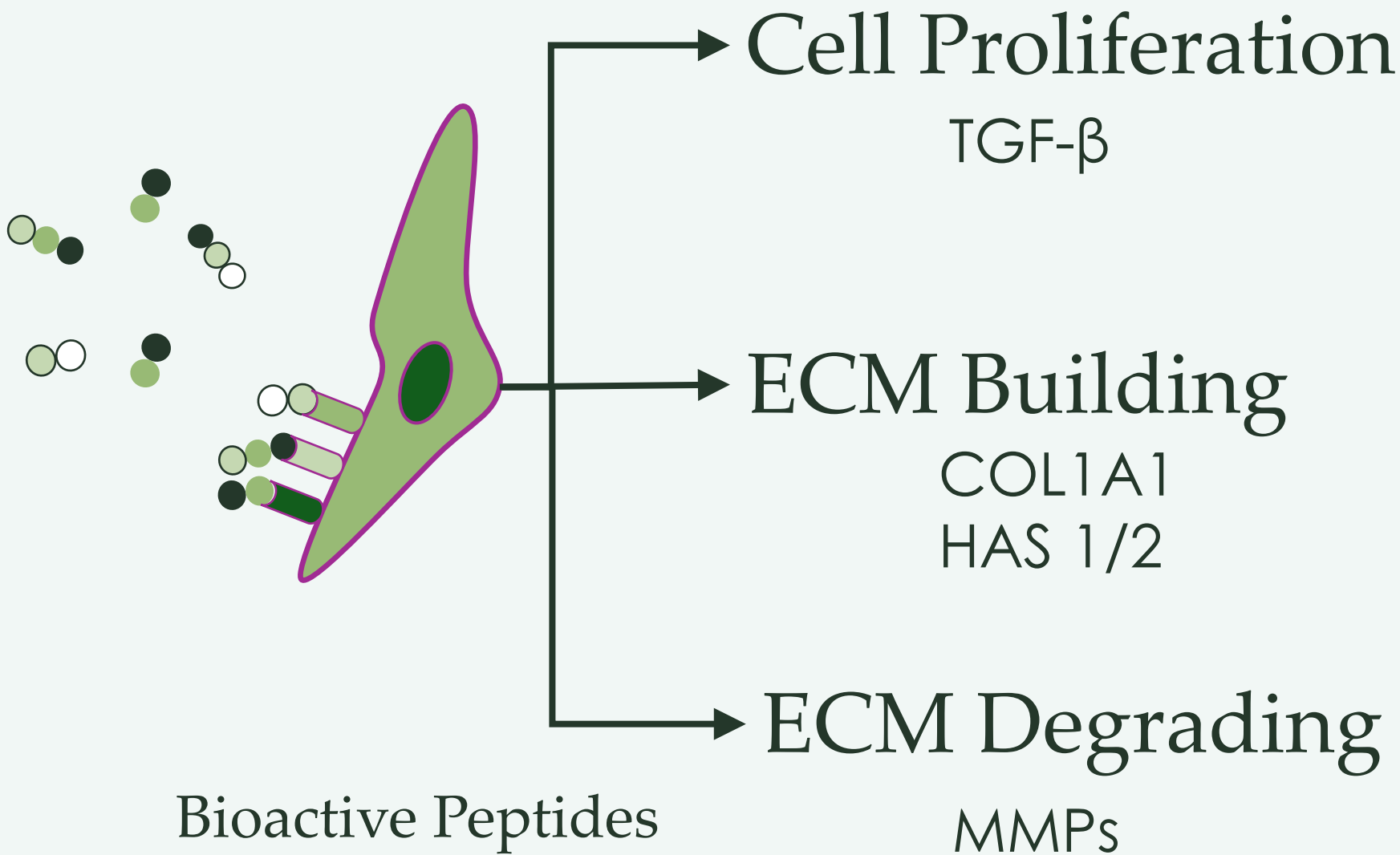
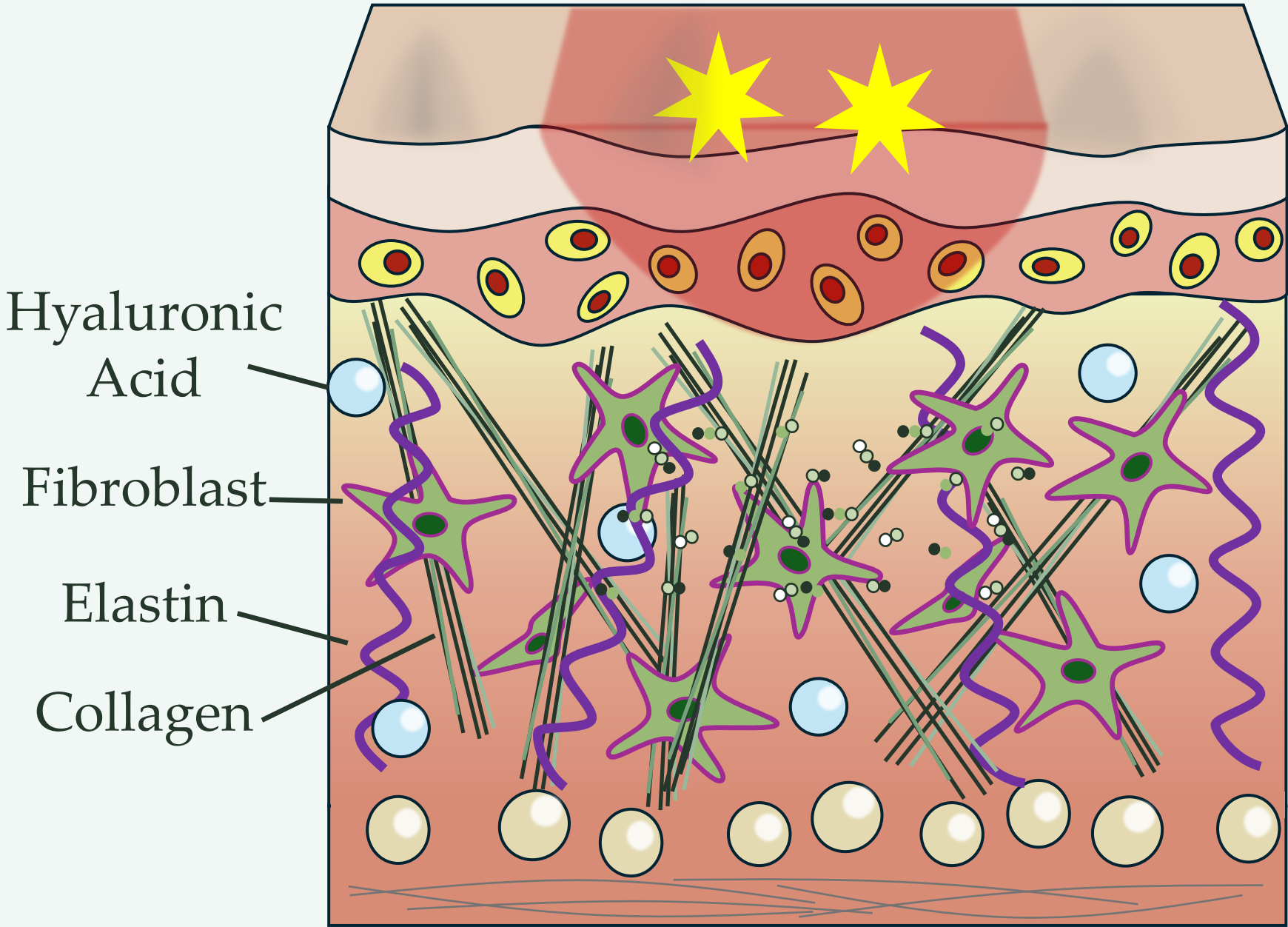
Peptides



Collagen Repair

VC-H1®

When damage occurs, small pieces of collagen (peptides) are released and activate fibroblasts to build more ECM material to replace the damaged tissue.



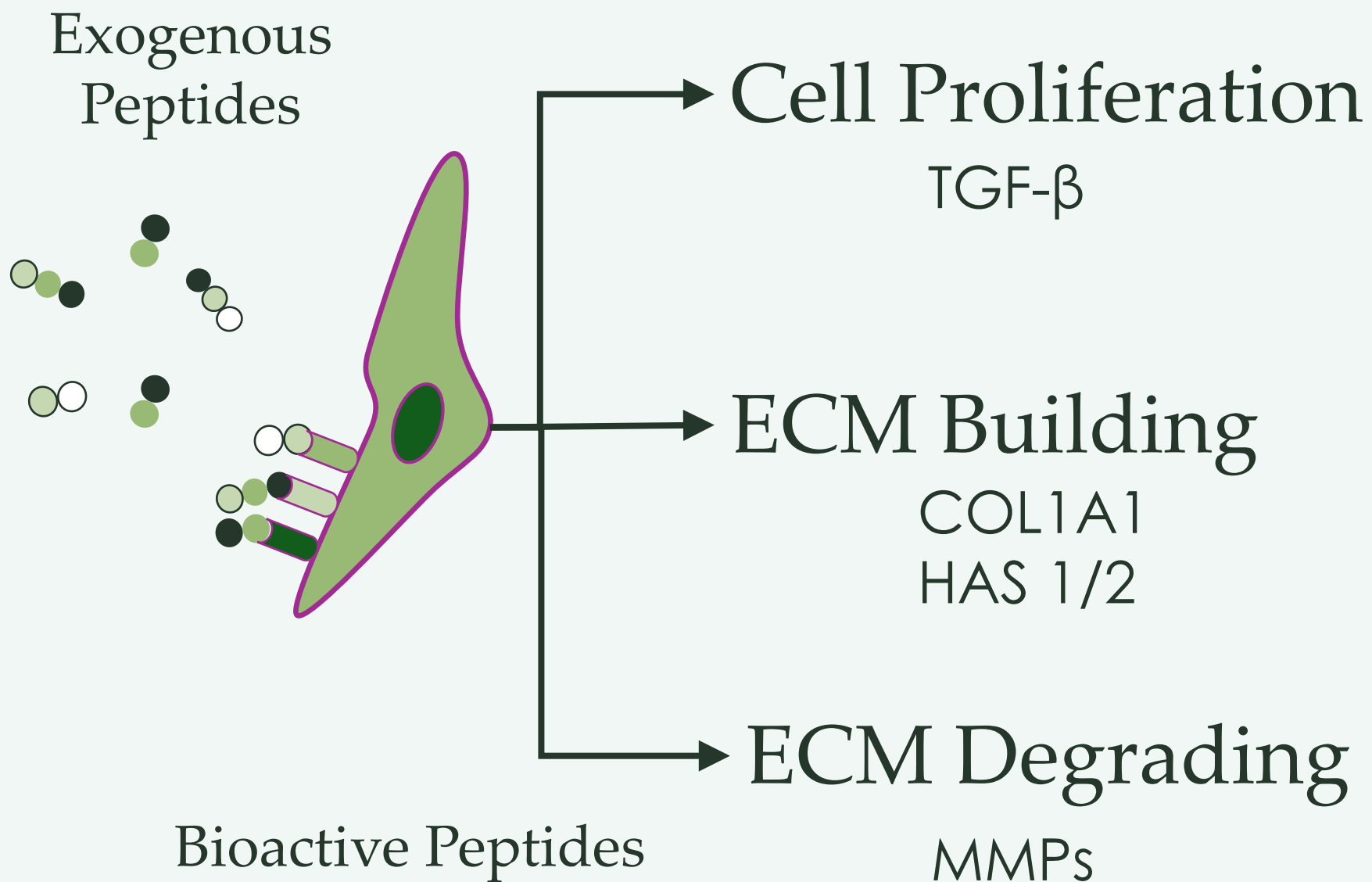
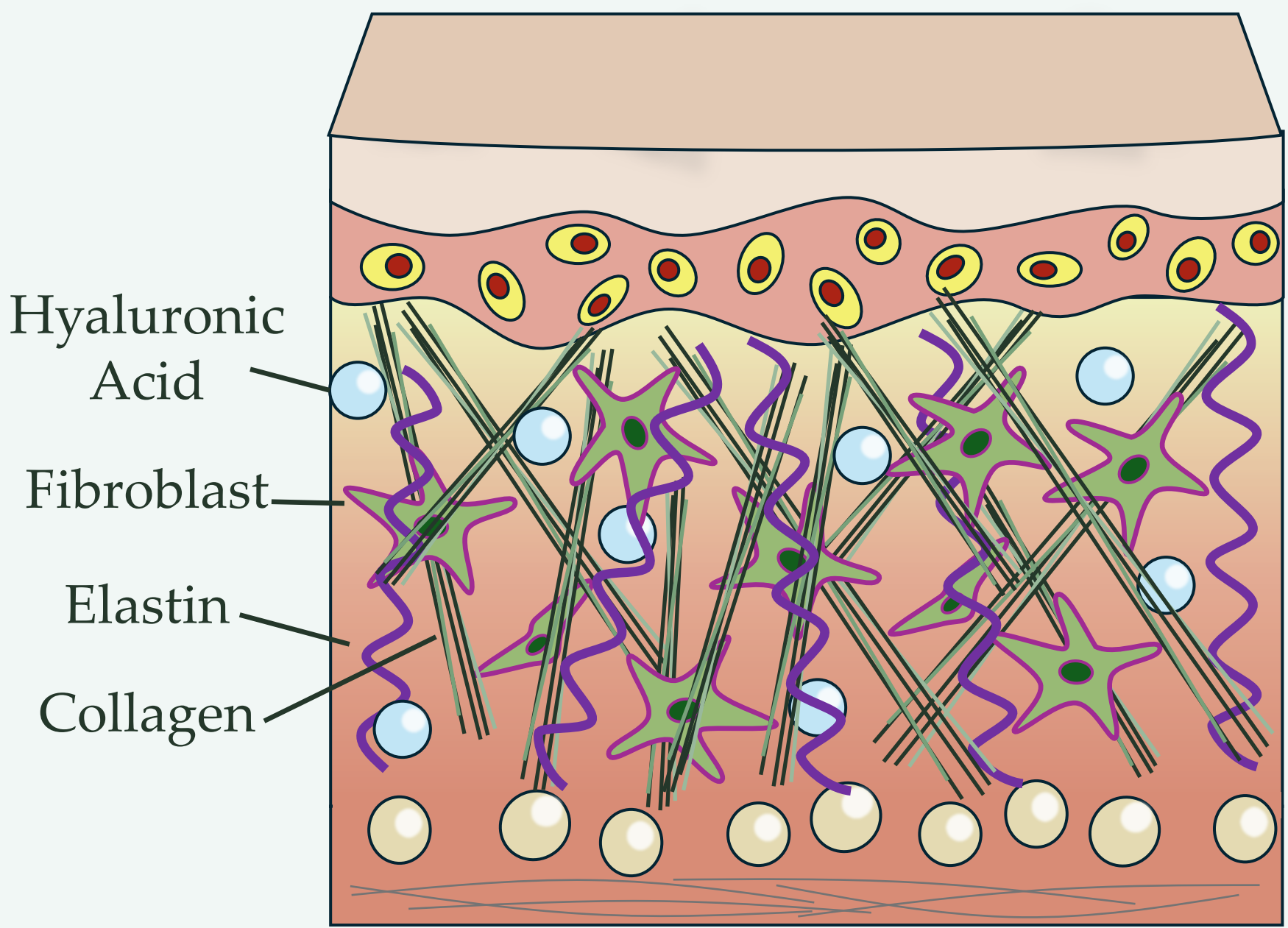
- Gly-Pro-Hyp • Gly-Pro
- Pro-Hyp • X-Hyp
- Hyp-Gly • X-Hyp-Gly

RAWGA

Collagen Supplementation

VC-H1®

Eating collagen can introduce these same peptides into the skin and activate fibroblasts without the need for damage. This strengthens the ECM and improves skin health.



- Gly-Pro-Hyp • Gly-Pro
- Pro-Hyp • X-Hyp
- Hyp-Gly • X-Hyp-Gly

Collagen Boosters

Combo of plant extracts and single amino acids matched to collagen.

- ✘ Single Amino Acids Don't Stimulate Collagen Production
- ✘ Can only broadly improve body's status of certain amino acids.
- ✘ Plant Extracts Often Protective But Not Stimulatory

Fermented Collagen

Microbes or yeast modified to produce collagen proteins.

- ✘ Expensive Process – Often Costing More than \$0.25/dose.
- ✘ Complicated – Build Collagen Just to Break it Down
- ✘ Not Plant Based – Consumers Looking For Botanic

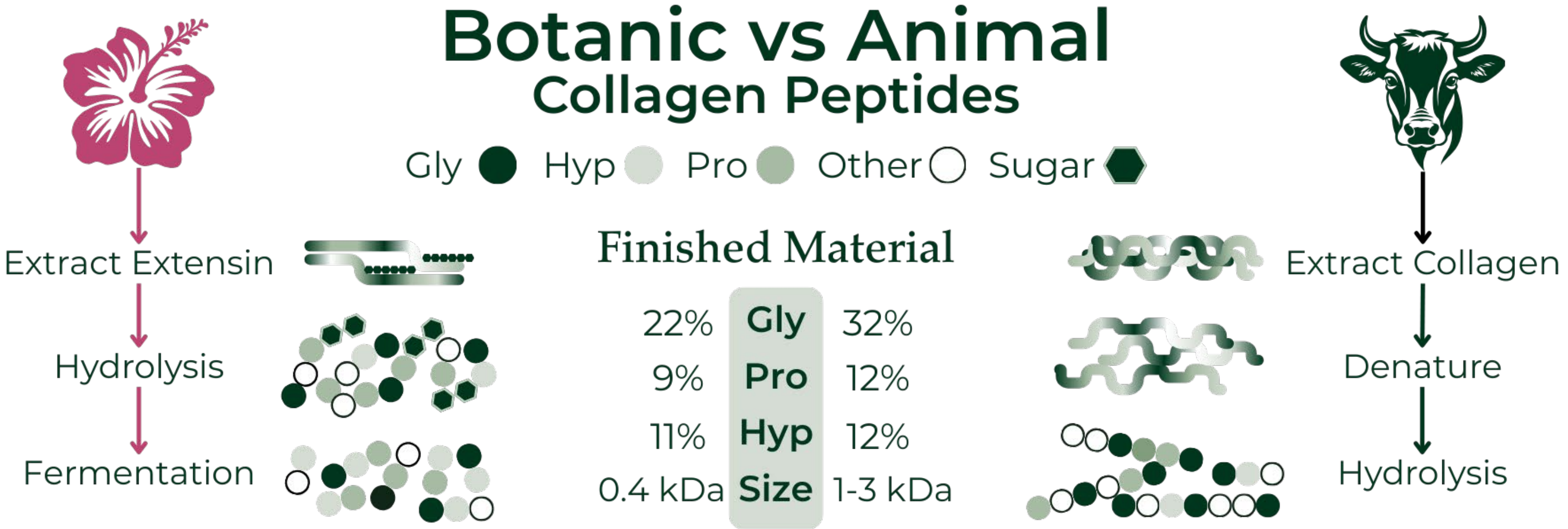
Plant Peptides

Hydrolyzed peptides from various plants – broccoli, carrot, rice

- ✘ Some lack hydroxyproline content all together.
- ✘ Some add hydroxyproline from carrots
- ✘ Generally opaque processes involving multiple companies

VC-H1

Natural, Botanical, Bioactive Peptides
In a Class of Its Own



VC-H1® is the only plant-based collagen alternative with the bioactive di- and tri-peptides found in collagen that are known to stimulate collagen synthesis. They are mostly made of Glycine, Proline, & Hydroxyproline and induce collagen synthesis by eliciting a rebuilding response from the body.



Collagen Synthesis Bioactivating Peptides.



Mechanisms

VC-H1®



Boost Collagen Synthesis

Peptide activation of fibroblasts and upregulation of **TGF- β** . Also Promotes:

HAS 1, HAS 2
COL1A1
FGFR1



Slow Collagen Degradation

Downregulation of **MAPK** inflammatory pathways reduces expression of:

MMP 1
MMP 3
MMP 9



Shield Collagen From Damage

Naturally occurring plant polyphenols provide protection from oxidative damage of skin cells. Animal sources collagen is completely absent these compounds.

Range (Da)	Ratio (%)
100-199	18.27
200-299	27.5
300-399	42.01
400-499	5.03
500-599	6.28
600+	0.9

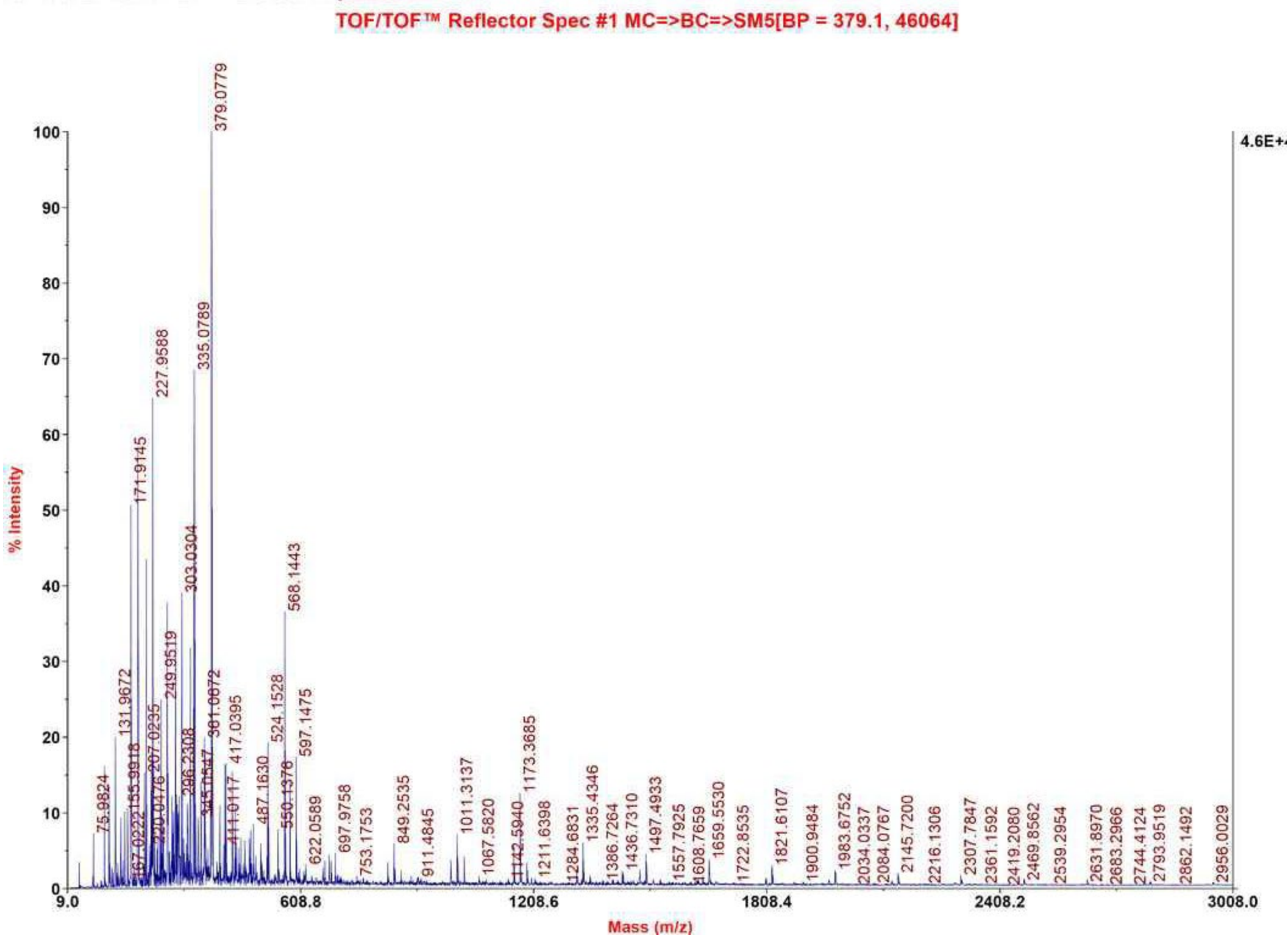
Peptide	Ratio (%)
Dipeptide	29.6
Tripeptide	59.7

Avg
Molecular
Weight

316Da

Di- and Tri-
Peptide
Content

89.3%



[VC-H1 – Clinical Research]

Preclinical Study (*in-vitro*)

A study on the biological performance of VC-H1 vs four types of animal-sourced collagen, specifically, the stimulation of collagen synthesis.

Preclinical Study (*in-vivo*)

Evaluation of VC-H1 benefits for skin health *in vivo* and an assessment of its effects in modulating cellular processes related to skin health.

Human Clinical Study

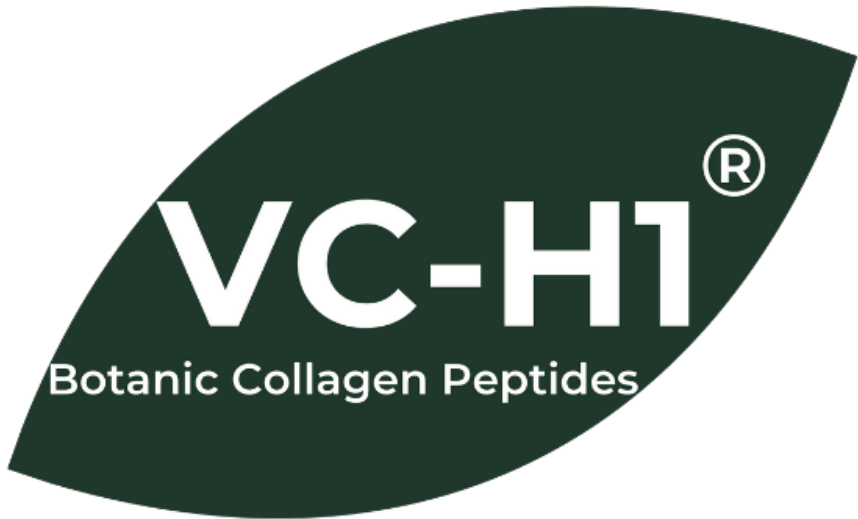
Human Application Study to Evaluate the Effects and Safety of Plant-Based Collagen building peptide (VC-H1) on Skin Health

[VC-H1 – Key Features]

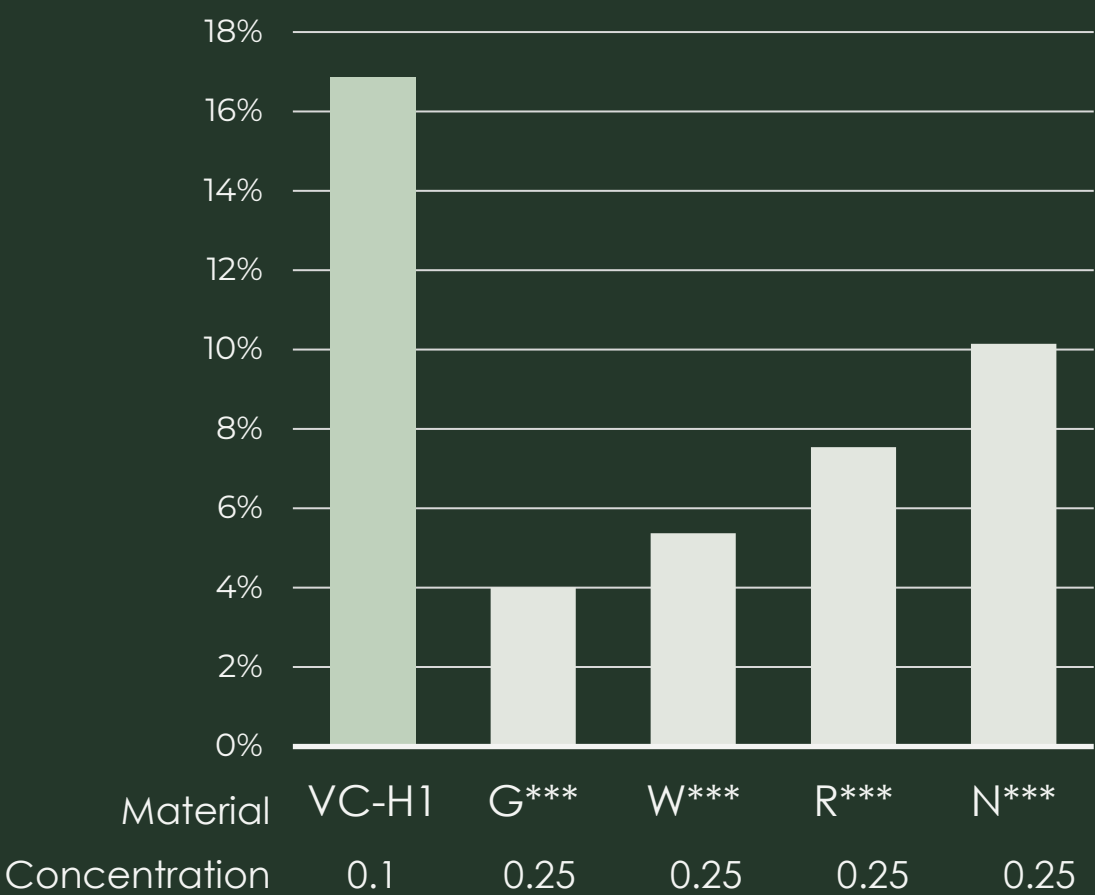
- Increases skin hydration, reduces trans epidermal water loss, and provides deep moisture
- Enhances skin elasticity, Improves skin texture, and reduces fine lines around the eyes
- Contains polyphenols and flavonoids for strong antioxidant effects
- Low dose of 1.5g

Safety Studies

- ✓ Acute Oral Toxicity
- ✓ 90day Subchronic Toxicity
- ✓ Ames Test (Genotoxicity)
- ✓ Mutagenicity



In vitro



VC-H1 stimulated collagen synthesis 70%-400% more effectively than animal sources at 40% the concentration.

In vivo

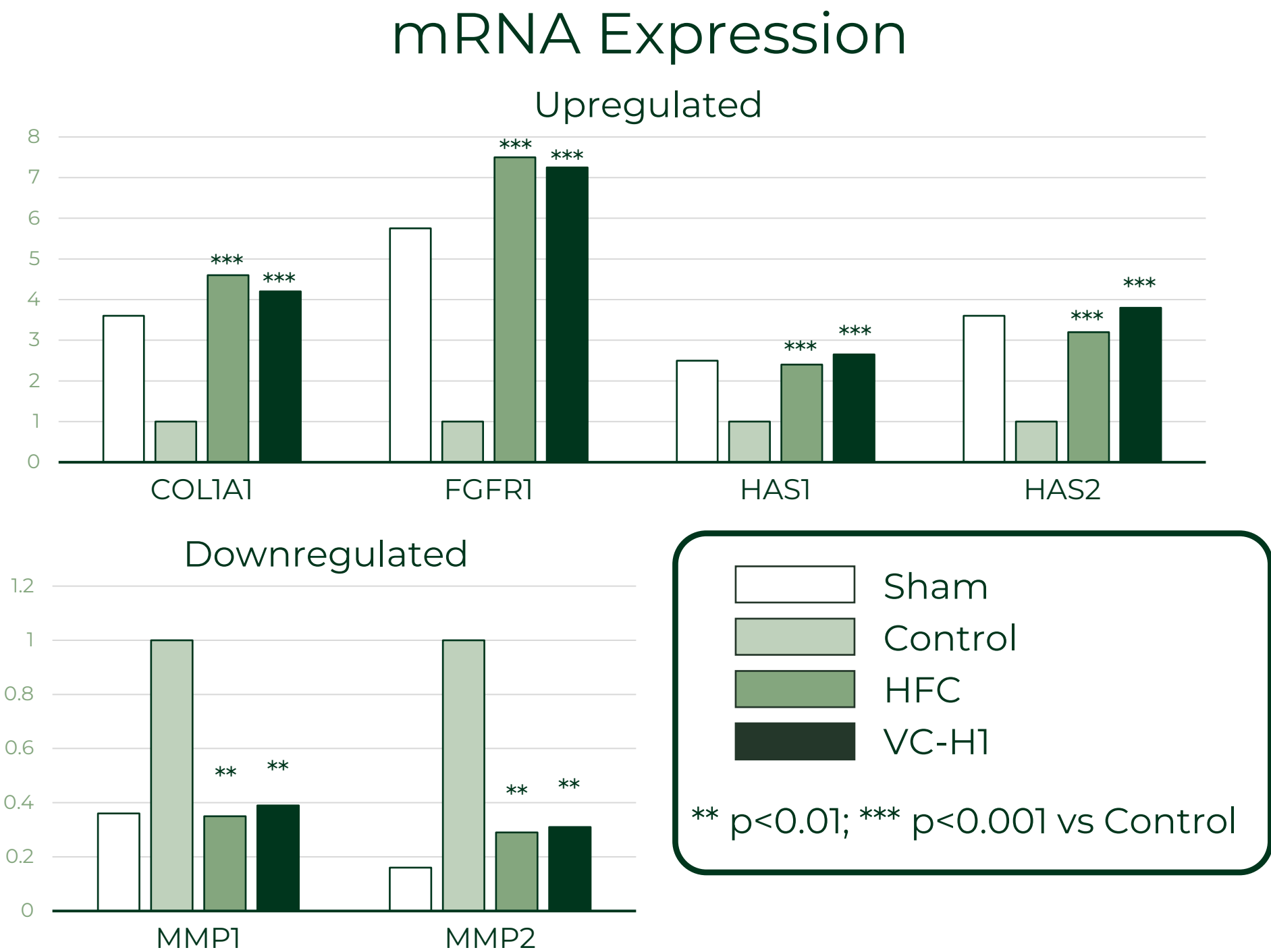
Effects of VC-H1 in UVB-Induced Photoaged SKH-1 Hairless Mice

- 45 Mice in 5 Groups (n=9)
- UVB Exposure for 4 weeks
- Concurrent Treatment/No Treatment

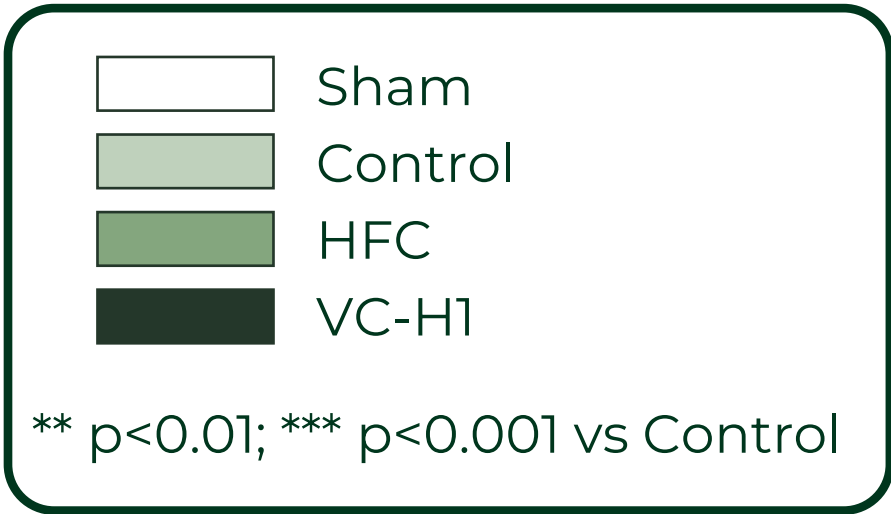
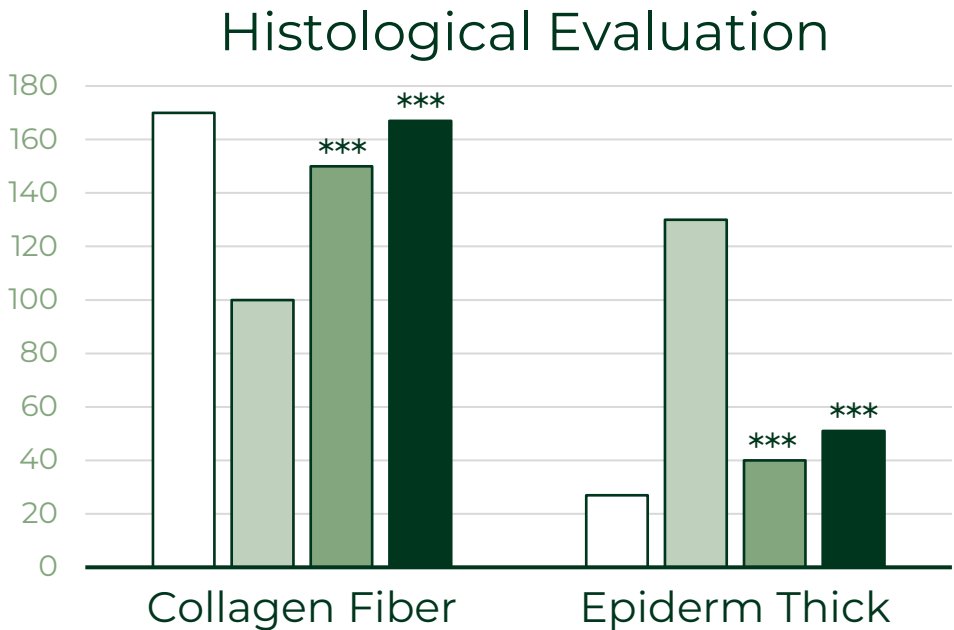
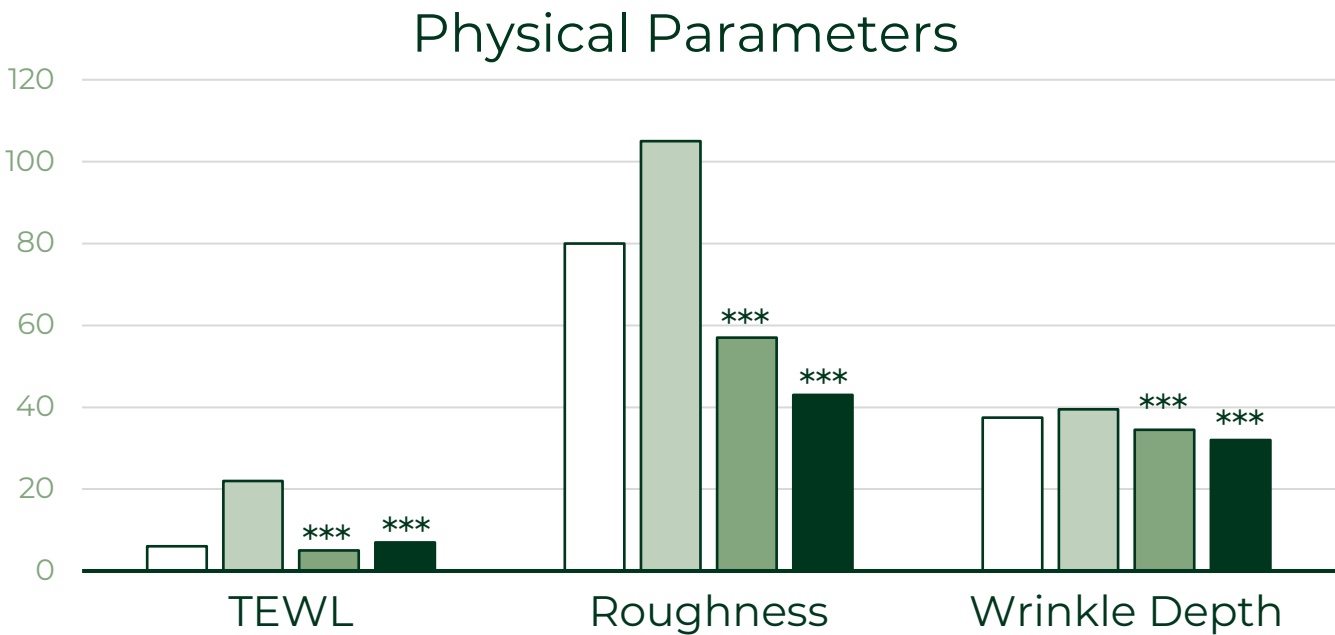
Groups:

- 1) Sham (No UVB, No Treatment)
- 2) Control (UVB, No Treatment)
- 3) HFC (UVB, Hydrolyzed Fish Collagen)
- 4) VCH1-A (UVB, Low Dose, Not Shown)
- 5) VCH1 (UVB, High Dose VCH1)

In vivo - Results

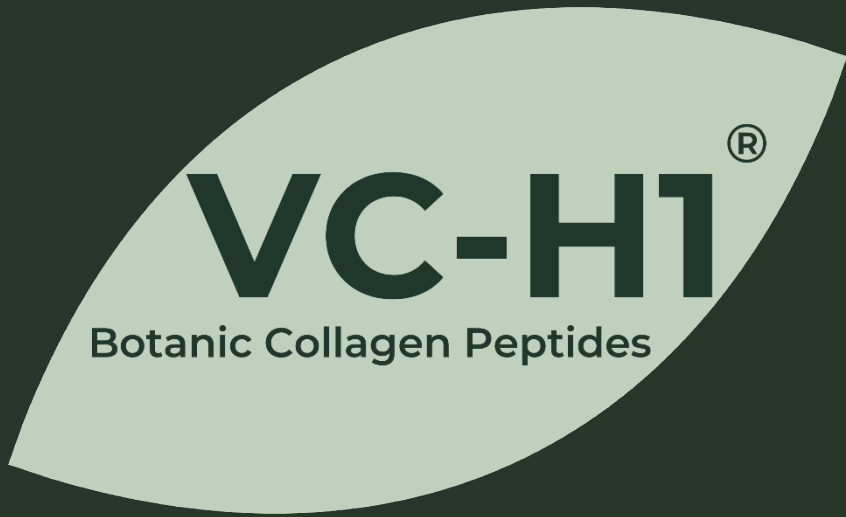


In vivo - Results



Conclusions

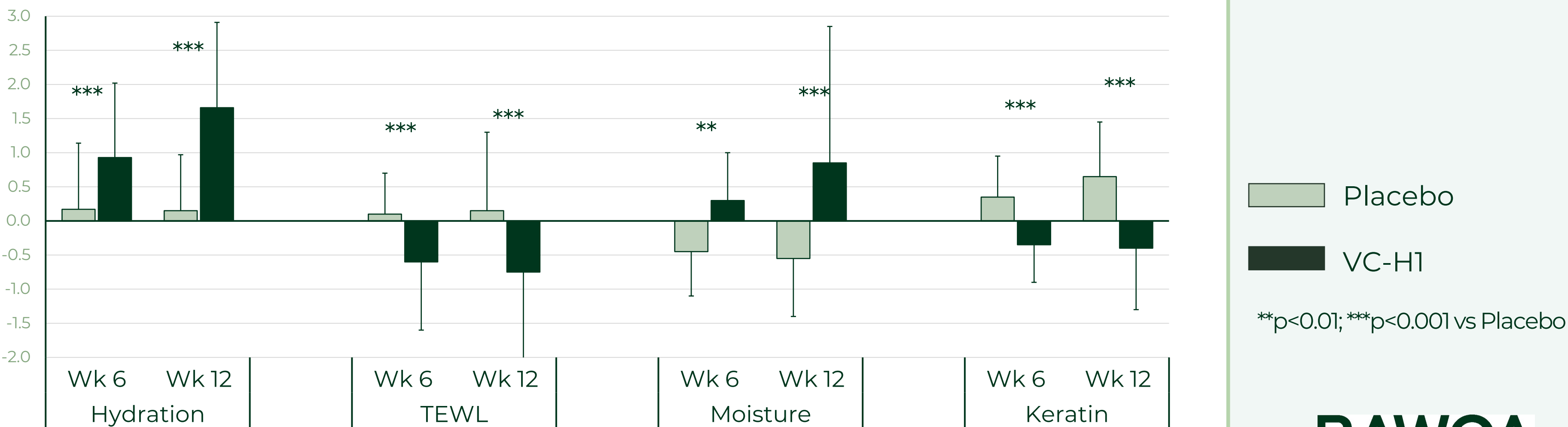
VC-H1 exerts protective effects against UVB-induced photoaging by promoting HA and collagen synthesis. It contributes to the maintenance of skin structure and the regulation of moisture retention.



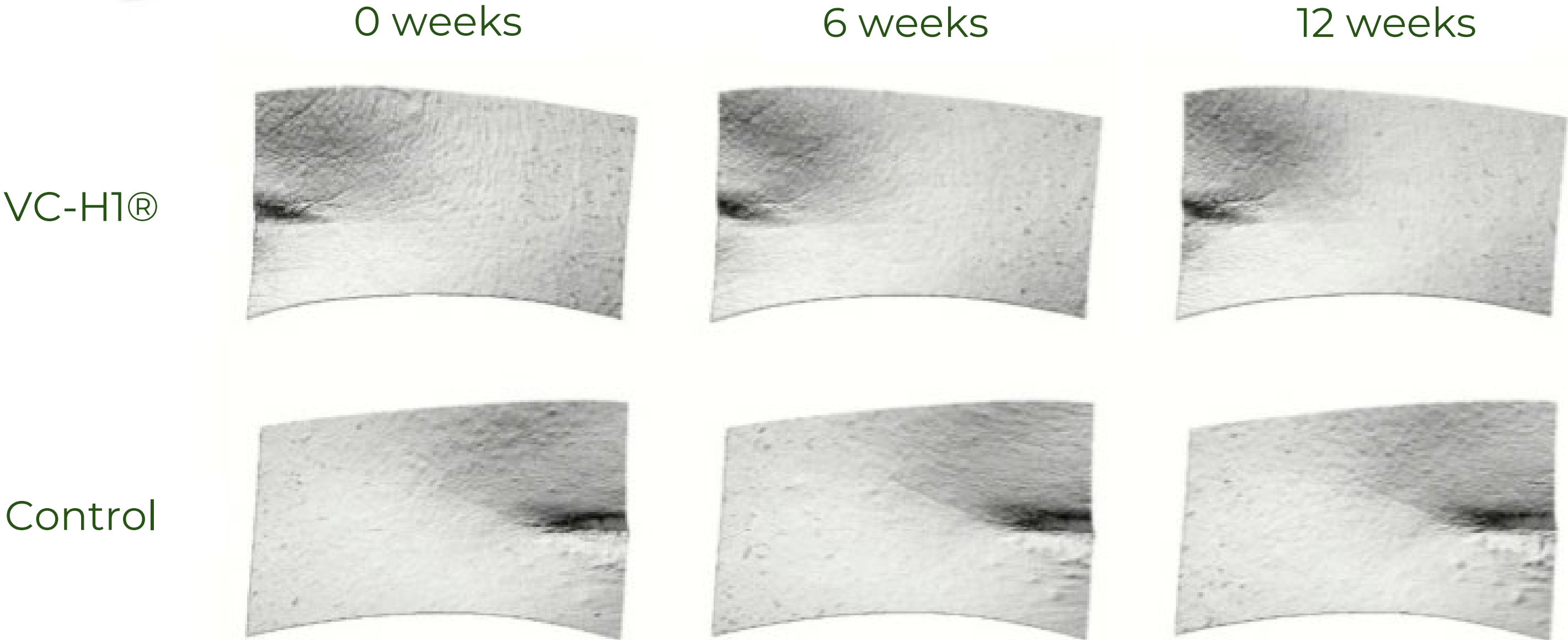
Study Details

Study Type	Double-Blind Human RCT	Timepoints	Baseline, 6 Weeks, 12 Weeks
Subjects	M/F; 35-60 years; Visible Wrinkles	Dose	1.5 grams per day
Groups	VC-H1 (n=50); Placebo (n=50)		

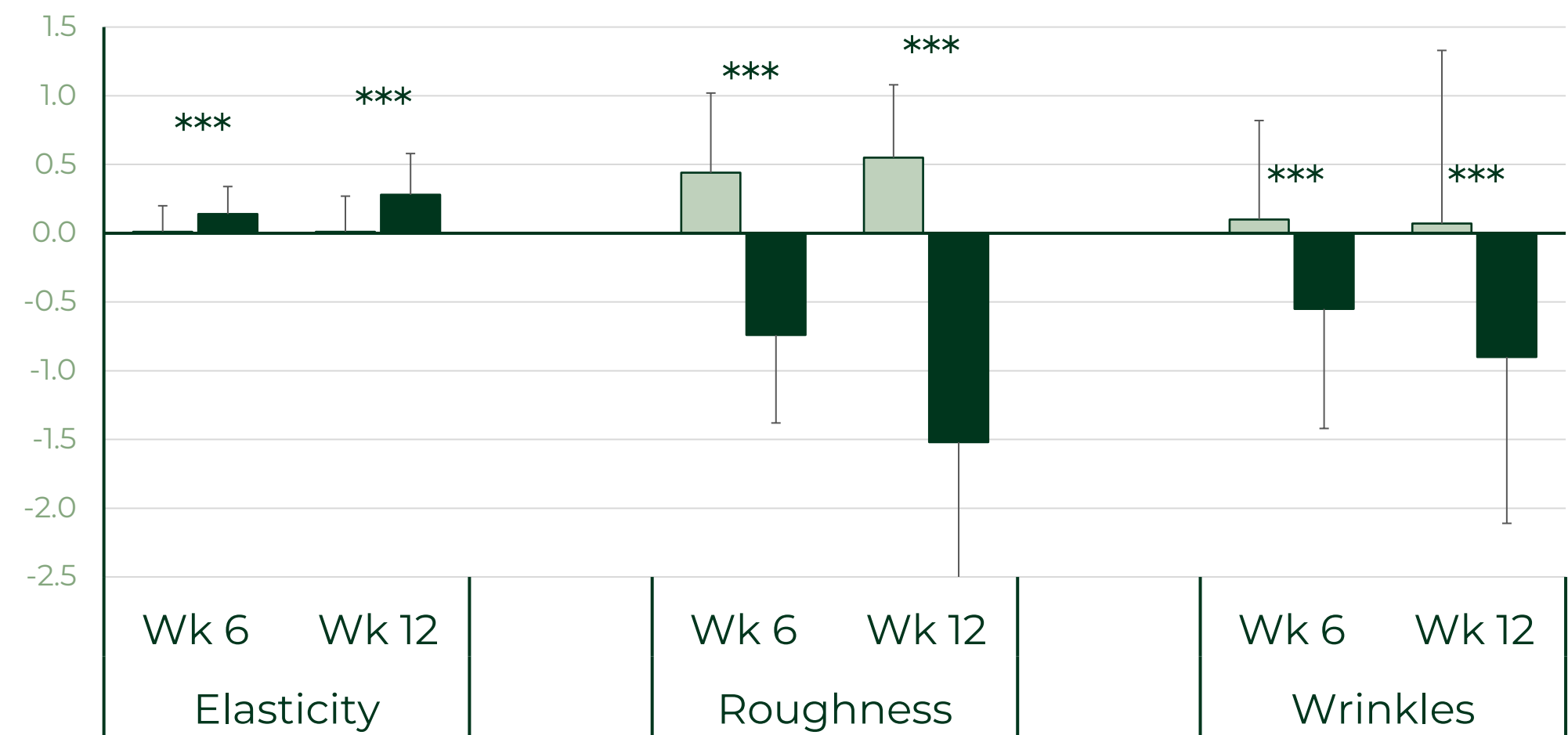
Results: Hydration and Barrier Function



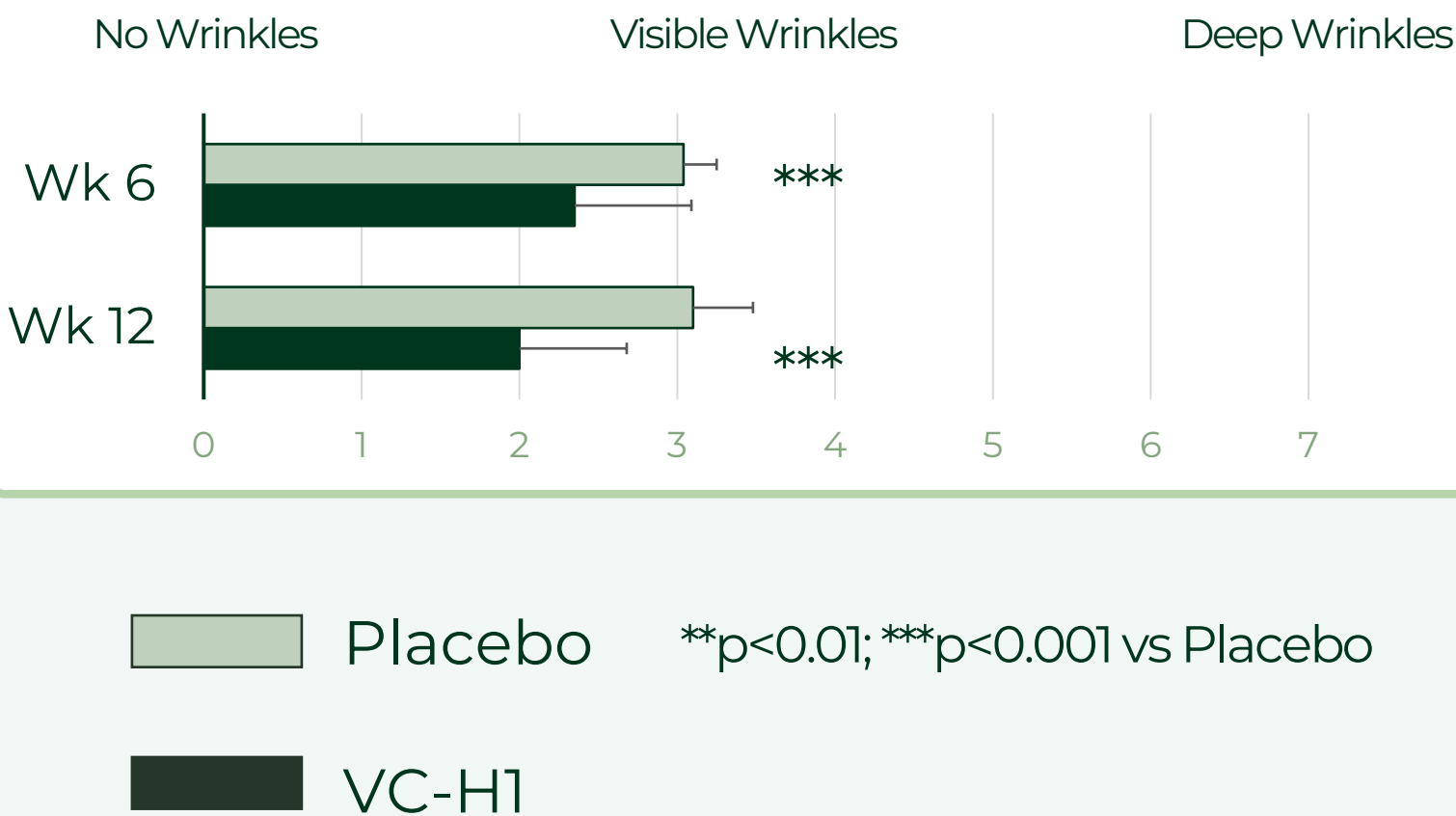
VC-H1 significantly improved the overall appearance of wrinkles and skin texture around the eyes after 12 weeks.



Results: Skin Characteristics



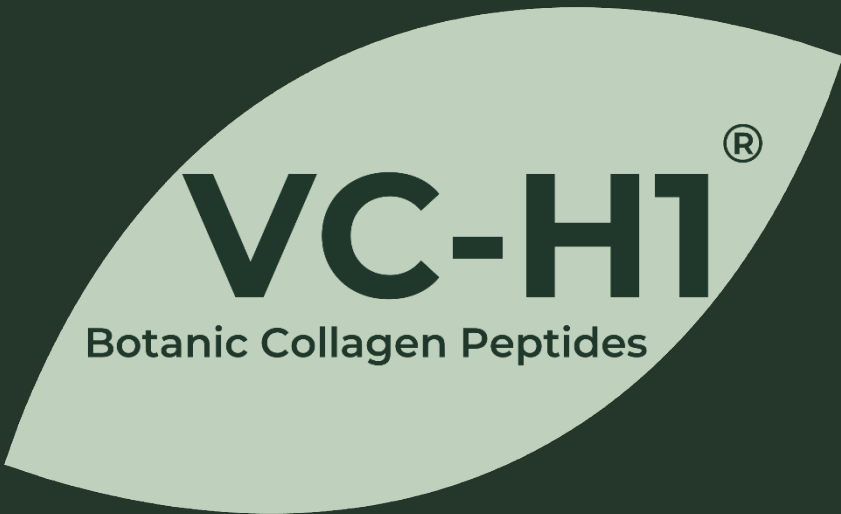
Results: Expert Evaluation



Conclusions

VC-H1 improves skin hydration as well as deep moisture, which indicates healthy water binding through HA content. It reduces TEWL, indicating better barrier function, and lowers keratin levels indicating better cell turnover, barrier function, and desquamation. Improvements to elasticity, texture, and wrinkles indicate robust improvements to skin health, that are visibly noticeable as indicated by the improved grades from expert evaluators.

Regulatory



Regulations and Labels

In-Process

NDI	Submitted	Q4 2025
GRAS	Dossier/Panel	Q1 2026
N-GMO Proj	Applied/Audit	Q4 2025
Organic	Applied Korea	Q2 2026

Labeling

Facts Panel:

- *Plant-Based Collagen Alternative*
- *Hydrolyzed Vegetable/Plant Peptides*

Marketing/Front Label:

- *Botanic Collagen Peptides*

- 1 Plant-based collagen peptide manufacturing method patented and 4 others
- 2 KMF Halal Certification
- 3 Kosher Certified
- 4 NON-GMO Certified
- 5 Hibiscus Organic Certified
- 6 Vegan Certified
- 7 GMP Certified
- 8 HACCP Certified
- 9 ISO 9001 Certified
- 10 ISO 22000 Certified
- 11 ESG Certified
- ISO 14001, ISO 37001, etc.



- Water soluble, stable, and low effective dose of 1.5g
- Clean taste and no smell (odorless)
- Clinical research for claims substantiation

Multiple Platforms Available Including:
RTD, Gummies, Powders,
Capsules, Jelly, Foods



Essential Collagen Solution Jelly Stick
Every Daze

Vegan collagen peptides in a refined, fruit-forward jelly stick crafted for radiant skin, hair, and nails - anytime, anywhere.



True Vegan Collagen
Vegimins

The benefits of real collagen, minus the animal products. Formulated with hibiscus extract, beauty is supported from the inside out to maintain a youthful glow.



Vegan Collagen Biotin Liquid
Plant

Vegan collagen sticks featuring award-winning patented hydrolyzing technology. The tripeptide collagen with 363Da ultra-low molecular weight ensures superior absorption and effectiveness.

The Market

- Consumers are engaged with collagen, driving growth
- Consumer demand for plant, green, convenient, science

The Science

- Key to efficacy for any collagen are peptides
- Stimulate ECM growth to replace or 'bank'

The Product

- **VC-H1 is 100% Plant-Based; Sustainably Farmed**
- **Peptides - 90% are Di/Tri - High Gly, Pro, Hyp**
- **Backed by strong research w/ objective measures**
- **Low Dose/\$ Per Dose + Soluble/Stable + Organoleptics**

Questions?

Thank You

RAWGA Team

hi@rawga.com

