

# THE COLLAGEN 16 COMPENDIUM



NEW SCIENTIFIC DISCOVERIES IN COLLAGEN  
TERRITORY, A BREAKTHROUGH TECHNOLOGY  
AND CLINICAL STUDIES RESULTS

VICHY  
LABORATOIRES

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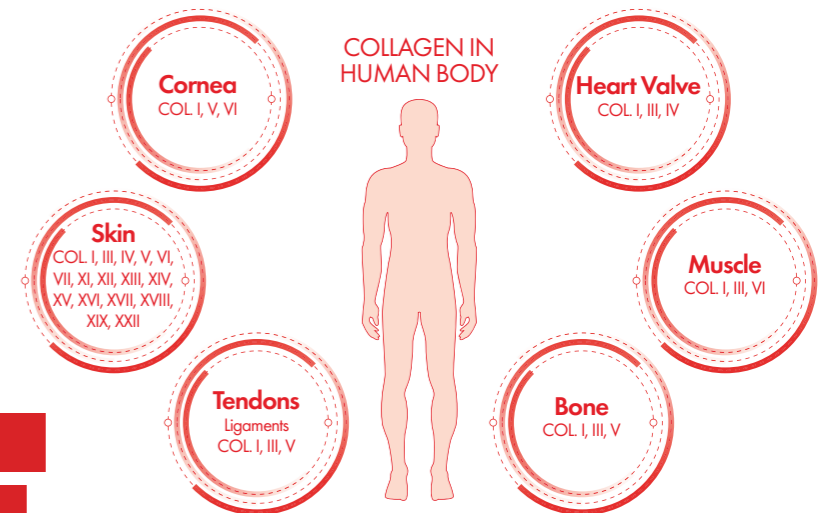
# COLLAGEN

## COLLAGEN'S IN HUMAN BODY

Collagen is the most abundant protein in the body, accounting for as much as 30% of the total body mass.<sup>1</sup>

There are 28 types of human collagen in the body that are identified to date.<sup>1</sup>

In the skin, there are 16 collagens which are essentials for maintaining its structure and mechanical properties.<sup>1</sup>



## THE IMPACT OF INTERNAL & EXTERNAL FACTORS ON COLLAGEN DETERIORATION

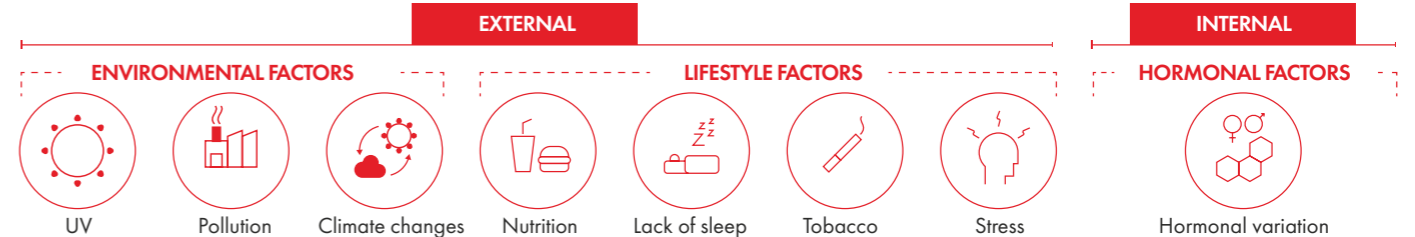
INTERNAL FACTORS : CHRONOLOGICAL AGEING AND HORMONES.

- 1% LOSS EVERY YEAR STARTING AROUND 25 YEARS OLD<sup>2</sup>
- TYPES I AND III SKIN COLLAGEN DECREASE BY 30% IN THE FIRST 5 YEARS AFTER MENOPAUSE<sup>3</sup>

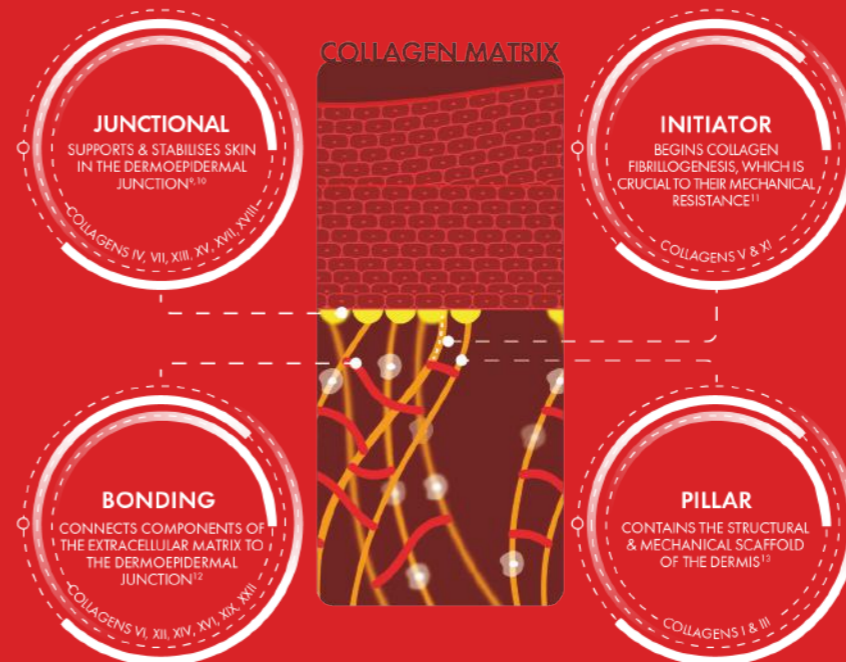


Graph modified from Naylor EC, et al. 2011<sup>3</sup>

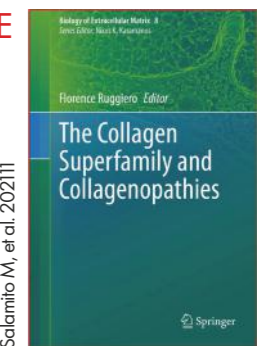
## OTHER FACTORS THAT IMPACT COLLAGEN<sup>3,5</sup>



## THE 4 COLLAGEN FAMILIES



LEARN MORE FROM THE FULL BOOK

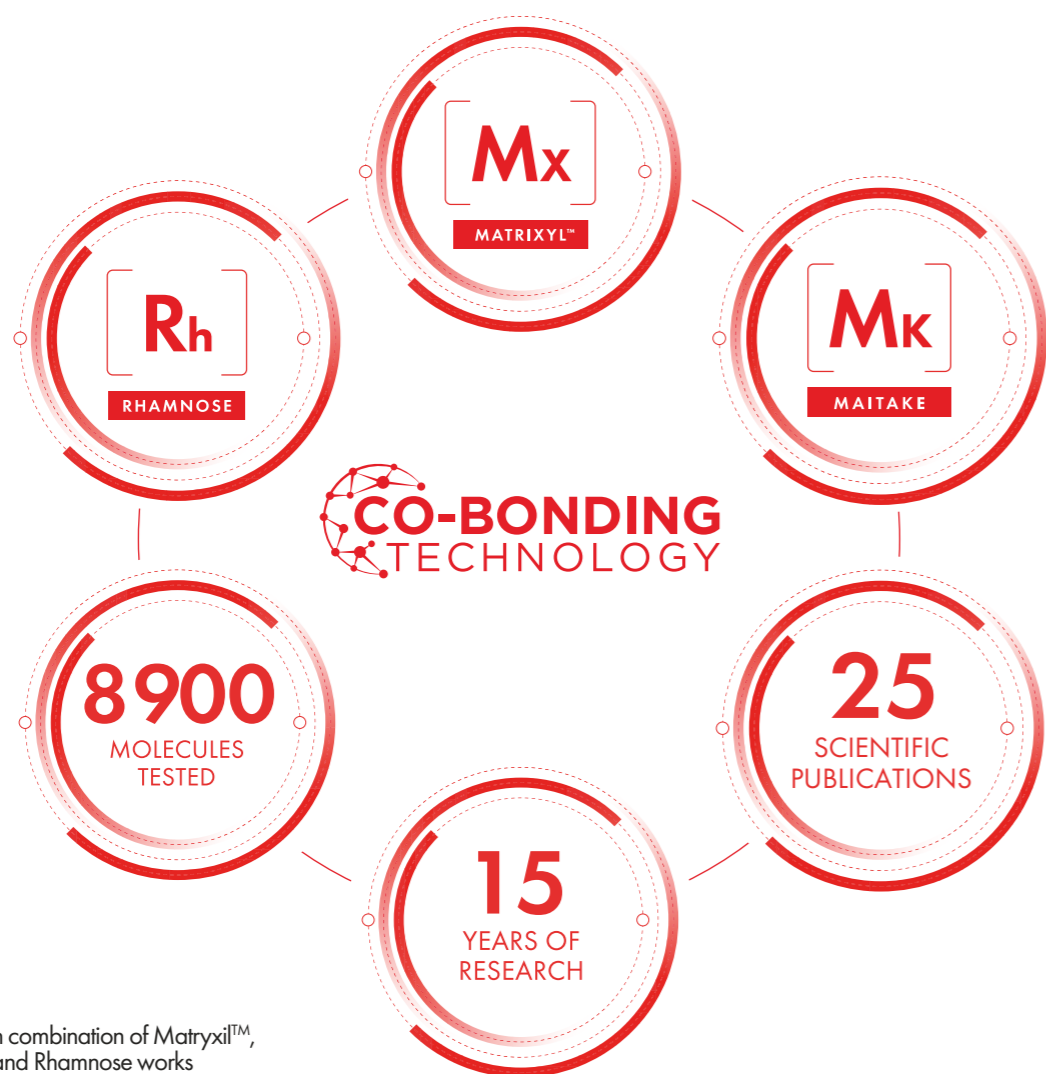


01 - Ricard-Blum S. Cold Spring Harb Perspect Biol. 2011;3(1):a004978. 02 - Reilly DM, Lozano J. Plast Aesthet Res 2021;8:2. 03 - Castelo-Branco, et al. Maturitas. 1992;15(2):113-119. 04 - Naylor EC, et al. Maturitas. 2011;69(3):249-56. 05 - Krutmann J, et al. J Dermatol Sci. 2017;85(3):152-161. 06 - Abreu-Velez AM, Howard MS. N Am J Med Sci. 2012;4(1):1-8. 07 - Chung HJ, Uitto J. Dermatol Clin. 2010;28(1):93-105. 08 - Wenstrup RJ, et al. J Biol Chem. 2004;279(51):53331-7. 09 - Cescon M, et al. J Cell Sci. 2015;128(19):3525-31. 10 - Wang H. Polymers (Basel). 2021;13(22):3868. 11 - Salamito M, et al. The Collagen Superfamily: Everything You Always Wanted to Know. In: Ruggiero, F. (eds) The Collagen Superfamily and Collagenopathies. Biology of Extracellular Matrix. Springer, Cham. 2021;8:1-22. 12 - In vivo results for the Lifactiv Collagen 16 bonding serum. 13 - In vivo results for the Lifactiv Collagen 16 bonding serum.

# CO-BONDING

**A NEXT GENERATION  
INNOVATION IN BOOSTING &  
BONDING THE COLLAGEN MATRIX**

POWERED BY: 3 KEY INGREDIENTS



This breakthrough combination of Matrixyl™, Maitake extract and Rhamnose works synergistically to enhance collagen production, inhibit enzymes that degrade collagen and maintain the extracellular matrix (ECM).

BOOSTS COLLAGEN PRODUCTION & SYNTHESIS

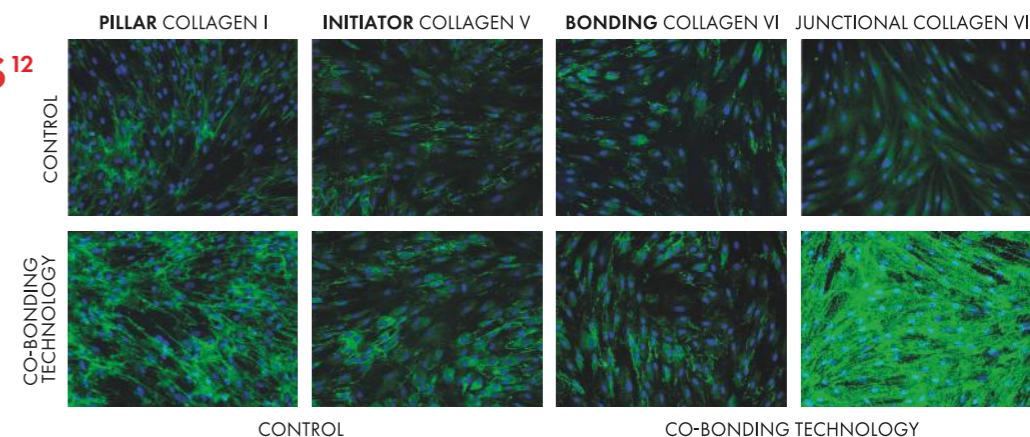
SUPPORTS THE CELL'S METABOLIC PROLIFERATION

PROTECTS THE EXTRACELLULAR MATRIX

# TECHNOLOGY

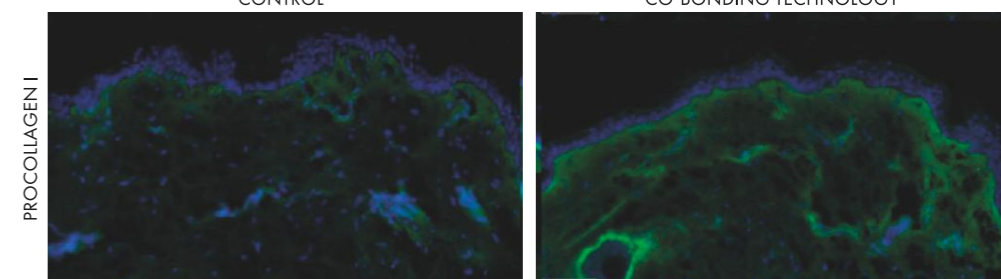
## IN-VITRO RESULTS<sup>12</sup>

CO-BONDING TECHNOLOGY STIMULATES ALL COLLAGEN FAMILIES



## IN-VIVO RESULTS<sup>13</sup>

CO-BONDING TECHNOLOGY SIGNIFICANTLY UPREGULATES PROCOLLAGEN I



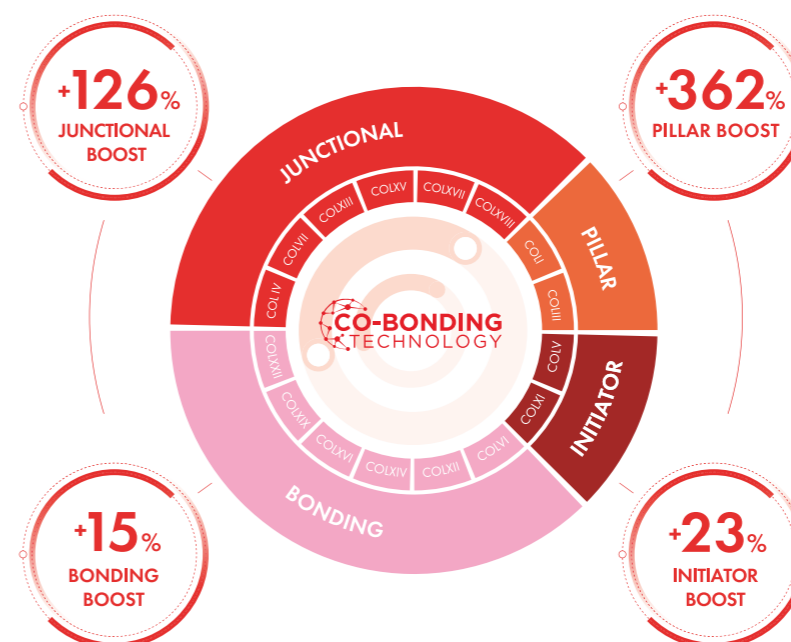
### PROTOCOL

- A 12-week study conducting biopsies for transcriptomics and hydrophobic interaction
- Cutometer
- All conducted on trio formula: 3% Matrixyl™ + 5% Rhamnose + 0.5% Maitake

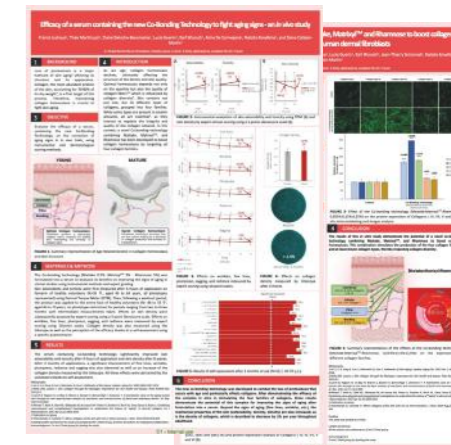
**RESULTS SIGNIFICANT UPREGULATION OF PROCOLLAGEN I**

## BOOSTING & BONDING ALL COLLAGEN FAMILIES<sup>12</sup>

EVIDENCE OF INCREASED COLLAGEN SYNTHESIS IN VITRO & IN VIVO



READ OUR POSTERS AT IMCAS 2025



<sup>12</sup> - In vitro results for the Liftactiv Collagen 16 bonding serum.  
<sup>13</sup> - In vivo results for the Liftactiv Collagen 16 bonding serum.

# COLLAGEN SPECIALIST 16 BONDING SERUM

A UNIQUE FORMULA COMBINING THE BREAKTHROUGH CO-BONDING TECHNOLOGY WITH POWERFUL ANTIAGEING INGREDIENTS.



## CLINICAL STUDY 1: SKIN DENSITY<sup>14</sup>

PROTOCOL
8-week study, 2X/Day application
44 women, 43-70 years old
All skin types, phototypes I and IV
Densiscore $\geq 3$ on the upper part of the arm (on a 5-point Densiscore scale)

MAIN RESULTS
SKIN DENSITY IMPROVED
4% AT 4 WEEKS   10.3% AT 8 WEEKS

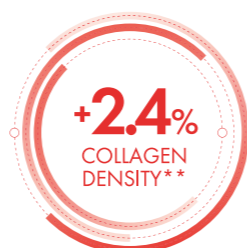
## CLINICAL STUDY 2: AGEING SIGNS<sup>15</sup>

PROTOCOL
12-week study, 2X/Day application
50 women, 40-70 years old
All phototypes with at least n=3 in each phototype
All ethnicities & all skin types
10-point scale evaluating: Visibility, fine lines visibility, ptosis, radiance, plumpness

### MAIN RESULTS AFTER 12 WEEKS



### COLLAGEN DENSITY



\*\* Spectrophotometric intracutaneous analysis (SIAscopy) measures the amount of collagen in the stratum corneum, epidermis and dermis to a depth of 2 mm after 12 weeks. S: statistically significant,  $p \leq 0.05$ ; TEWL: Transepidermal Water Loss 14 - Clinical study evaluating Liftactiv Collagen Specialist 16 bonding serum on skin density in 44 women, 43-70 years old, all skin types, phototypes I and IV, 2X/Day for 8 weeks. 15 - Clinical study on the efficacy of the Liftactiv Collagen Specialist 16 bonding serum on facial ageing signs in 50 women, aged 40-70 years old, across all phototypes, ethnicities and skin types, 2X/Day for 12 weeks.

# STUDIES

## VISIBLE IMPROVEMENT ON AGEING SIGNS<sup>15</sup>



## SELF-EVALUATIONS AFTER 12 WEEKS<sup>16\*</sup>

**PATIENT SATISFACTION**  
VISIBLE RESULTS IN 2 WEEKS

**100%** CONFIRM REDUCED WRINKLES  
CONFIRM FINE LINES  
CONFIRM PLUMPER SKIN  
CONFIRM MORE RADIANT SKIN

**HIGH COSMETICITY**  
VISIBLE RESULTS IN 12 WEEKS

**100%** PRODUCT APPLIES SMOOTHLY

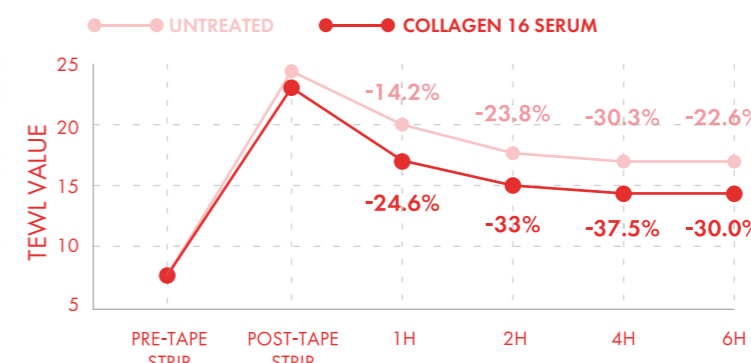


## INSTRUMENTAL TESTS

RESULTS:
Comeometer <sup>®17</sup> : 24-hour hydration
TEWL <sup>18</sup> : Improvement in the protective effect of the skin barrier
Dermal Torque Meter <sup>19</sup> : Improvement in extensibility and tonicity after 4 hours

## TEWL + AFTER STRIPPING<sup>20</sup>

S: Statistically significant,  $p \leq 0.05$ ; TEWL: Transepidermal Water Loss



**SIGNIFICANT REPAIR EFFECT AGAINST WATER LOSS IN JUST 6 HOURS**

\*% of people who agree or somewhat agree 16 - Self-evaluations from the clinical study on the efficacy of the Liftactiv Collagen Specialist 16 bonding serum on facial ageing signs in 50 women, aged 40-70 years old, across all phototypes, ethnicities and skin types, 2X/Day for 12 weeks. 17 - Instrumental test using Comeometer<sup>®</sup> to evaluate the Liftactiv Collagen Specialist 16 bonding serum in women, 29-70 years old, presenting dry skin on the anterior side of the forearms with evaluations post-application at 4, 8 and 24 hours. 18 - Instrumental test evaluating the Liftactiv Collagen Specialist 16 bonding serum in 24 women, 18-65 years old, one hour after application. 19 - Instrumental test using the Dermal Torque Meter evaluating the Liftactiv Collagen Specialist 16 bonding serum in 39 women, 46-64 years old, all phototypes, 4 hours after application. 20 - Instrumental test evaluating the Liftactiv Collagen Specialist 16 bonding serum before and after stripping in 21 women, 29-63 years old.

# COLLAGEN SPECIALIST 16 DAY CREAM

BOOSTING SKIN HEALTH WITH CO-BONDING TECHNOLOGY & PROVEN ACTIVES



CLINICAL STUDY 1: SKIN DENSITY, SAGGING, RADIANCE, SKIN TONE EVENNESS, DARK SPOTS<sup>21</sup>

PROTOCOL
8-week study, 2X/Day application
90 women, 45-70 years old
100% sensitive skin
All skin types & phototypes
Presenting lack of skin density, even skin tone, radiance, and sagging

MAIN RESULTS AFTER 8 WEEKS	
SKIN DENSITY IMPROVED	
+10.3% SKIN DENSITY	+11.3% RADIANCE
+11.5% SKIN TONE EVENNESS	-13.8% DARK SPOTS
-8% SAGGING PTOSIS	

CLINICAL STUDY 2: PLUMPNESS, WRINKLES, FINE LINES<sup>22</sup>

PROTOCOL
8-week study, 2X/Day application
50 women, 45-65 years old
Phototypes I to IV
All skin types
10-point scale evaluating: Fine lines, plumpness and wrinkles

MAIN RESULTS AFTER 8 WEEKS	
SKIN DENSITY IMPROVED	
+9% PLUMPNESS	-11.3% FOREHEAD WRINKLES

SELF-EVALUATIONS AFTER 8 WEEKS<sup>23\*</sup>

**94.1%** SKIN FEELS STRENGTHENED | **100%** PRODUCT APPLIES EASILY/SMOOTHLY

INSTRUMENTAL TEST

- Comeometer<sup>24</sup>: 48-hour hydration
- Dermal Torque Meter<sup>25</sup>: Improvement in extensibility, tonicity, and firmness after 4 hours

TEWL<sup>26</sup>

**19.6%** SKIN BARRIER PROTECTION



21 - Clinical study evaluating Liftactiv Collagen Specialist 16 Day Cream on skin density, sagging, radiance, skin tone evenness and dark spots in 90 women, 45-70 years old with sensitive skin, all skin types & phototypes, 2X/Day for 8 weeks. 22 - Clinical study evaluating Liftactiv Collagen Specialist 16 Day Cream on plumpness, wrinkles and fine lines in 50 women, 45-65 years old, phototypes I-IV, all skin types, 2X/Day for 8 weeks. 23 - Self-evaluations from the clinical study evaluating Liftactiv Collagen Specialist 16 Day Cream on plumpness, wrinkles and fine lines in 50 women, 45-65 years old, phototypes I-IV, all skin types, 2X/Day for 8 weeks. 24 - Instrumental test using Comeometer<sup>®</sup> to evaluate the Liftactiv Collagen Specialist 16 Day Cream in 24 women, 29-70 years old, presenting dry skin on the anterior side with evaluations every 4, 8, 24 and 48 hours. 25 - Instrumental test using the Dermal Torque Meter evaluating the Liftactiv Collagen Specialist 16 Day Cream in 40 women, 40-65 years old, 4 hours after application. 26 - Instrumental test evaluating the Liftactiv Collagen Specialist 16 Day Cream in 24 women 19-70 years old, one hour after application.

# COLLAGEN SPECIALIST 16 NIGHT CREAM

SYNERGISTIC ACTIVES WORKING WITH CO-BONDING TECHNOLOGY



CLINICAL STUDY: WRINKLES<sup>27</sup>

PROTOCOL
4-week study, 1X/Day
75 women, 45-65 years old
Dry to very dry skin
Presenting wrinkles and fine lines on the whole face
A dull and inhomogeneous complexion
Cutaneous tonicity problems on face (inclusion grade ≥ 3 with Dermotrace)

MAIN RESULTS AFTER 4 WEEKS	
+13% SKIN ROUGHNESS	+12% SKIN DRYNESS
SELF-EVALUATIONS	
96% SKIN FEELS COMFORTABLE*	97% TEXTURE IS PLEASANT**

INSTRUMENTAL STUDY: SEVERITY OF WRINKLES<sup>28</sup>

PROTOCOL
8-week study, 1X/Day at night, paired with SPF 20 moisturizer in the morning
50 women, 41-55 years old
Crow's feet wrinkles > 2 and < 5 according to the Skin Ageing Atlas (Vol. 1, p.41)
Main wrinkles' length: at least 2 cm
2-week washout period with SPF 20 during the day + usual moisturizer during the night

MAIN RESULTS AFTER 8 WEEKS	
-13.1% TOTAL SURFACE OF WRINKLES	
-4.4% MEAN DEPTH OF WRINKLES	

INSTRUMENTAL TEST

- TEWL<sup>29</sup>: Improvement in the skin barrier protection
- Dermal Torque Meter<sup>30</sup>: Improvement in extensibility, tonicity, and firmness after 4 hours

DERMOTRACE<sup>31</sup>

**↑12.6%** IMPROVES SKIN RECOVERY



\*% of people who agree or somewhat agree \*\*% of people who agree 27 - Clinical study evaluating Liftactiv Collagen Specialist 16 Night Cream on wrinkles and fine lines in 75 women, 45-65 years old, dry to very dry skin, 1X/Day for 4 weeks. 28 - Instrumental test evaluating severity of wrinkles after using the Liftactiv Collagen Specialist 16 Night Cream in 50 women, 41-55 years old, 1X/Day for 8 weeks. 29 - Instrumental test evaluating the Liftactiv Collagen Specialist 16 Night Cream in 24 women, 18-65 years old, one hour after application. 30 - Instrumental test using the Dermal Torque Meter evaluating the Liftactiv Collagen Specialist 16 Night Cream in 40 women, 40-65 years old, 4 hours after application. 31 - Instrumental test using the Dermotrace evaluating the Liftactiv Collagen Specialist 16 Night Cream in 44 women, 45-65 years old, one hour after application.

# COLLAGEN SPECIALIST 16 EYE CARE

ACTIVES THAT BOOST COLLAGEN  
WITH CO-BONDING TECHNOLOGY



## CLINICAL STUDY: EYE CONTOUR<sup>32</sup>

PROTOCOL	MAIN RESULTS
4-week study, 2X/Day 39 women, 30-55 years old All types of skin 100% sensitive skin 53% sensitive eyes	CLINICAL VISIBILITY AFTER 4 WEEKS -25.9% WRINKLES & FINE LINES -23.4% TIREDNESS MARKS -21.4% DARK CIRCLES

## CLINICAL STUDY: EYE SPECIFIC AGEING SIGNS<sup>33</sup>

PROTOCOL	MAIN RESULTS
8-week study, 2X/Day 53 women, 41-66 years old All types of skin Phototypes II and III Clinical scoring of crow's feet wrinkles, undereye wrinkles and eyebags using Atlas Vol. 1	SIGNIFICANT IMPROVEMENT AFTER 8 WEEKS +11.5% RADIANCE -13.5% UNDER EYE WRINKLES -4.6% PTOSIS



## SELF-EVALUATIONS<sup>34\*</sup>

94% SKIN OF THE EYE CONTOUR FEELS HYDRATED  
 92% SKIN OF THE EYE CONTOUR FEELS SMOOTHER

## VISIBLE IMPROVEMENT: MEAN CASE<sup>34</sup>



## INSTRUMENTAL TEST

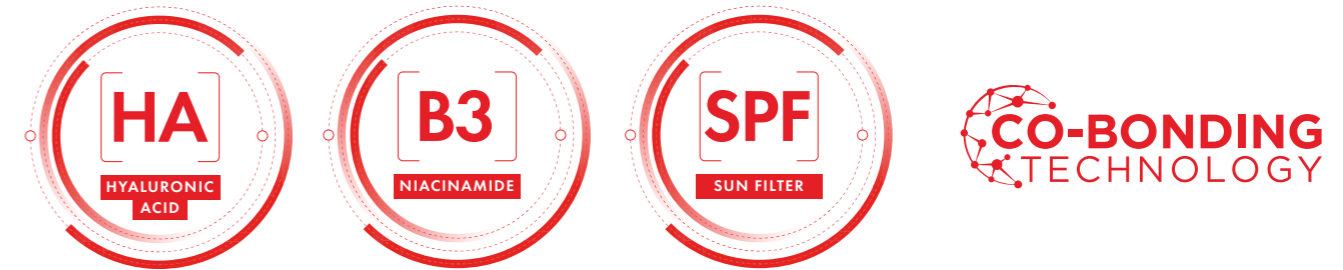
- Corneometer<sup>35</sup>: 24-hour hydration
- TEWL<sup>36</sup>: Improvement in the skin barrier recovery
- Dermal Torque Meter<sup>37</sup>: Improvement in extensibility, tonicity, and firmness after 4 hours

\*% of people who agree or somewhat agree 32 - Clinical study evaluating Liftactiv Collagen Specialist 16 Eye Care on the eye contour in 39 women, 30-55 years old, with all types and sensitive skin, 53% with sensitive eyes, 2X/Day for 4 weeks. 33 - Clinical study evaluating Liftactiv Collagen Specialist 16 Eye Care on the eye specific ageing signs in 53 women, 41-66 years old, all skin types, phototypes II & III, 2X/Day for 8 weeks. 34 - Self-evaluations from the clinical study evaluating Liftactiv Collagen Specialist 16 Eye Care on the eye specific ageing signs in 53 women, 41-66 years old, all skin types, phototypes II & III, 2X/Day for 8 weeks. 35 - Instrumental test using Corneometer® to evaluate the Liftactiv Collagen Specialist 16 Eye Care in 24 women, 18-65 years old, with evaluations every 4, 8 and 24 hours. 36 - Instrumental test evaluating the Liftactiv Collagen Specialist 16 Eye Care in 24 women, 18-65 years old, before and after stripping. 37 - Instrumental test using the Dermal Torque Meter to evaluate the Liftactiv Collagen Specialist 16 Eye Care in 40 women, 40-65 years old, 4 hours after application.



# COLLAGEN SPECIALIST 16 SPF 50 CREAM

BOOST & BOND COLLAGENS WITH  
CO-BONDING TECHNOLOGY & POWERFUL ACTIVES



## CLINICAL STUDY 1: AGEING PARAMETERS<sup>38</sup>

PROTOCOL	MAIN RESULTS
6-week study, 1X/Day 42 women, 45-65 years old 63% with sensitive skin All users of anti-ageing products with SPF 50 photoprotection Clinical scoring of forehead, crow's feet and nasolabial fold wrinkles	AFTER 6 WEEKS +26% RADIANCE +35% PLUMPNESS -41% FOREHEAD WRINKLES -43% CROW'S FEET WRINKLES -41% NASOLABIAL FOLD WRINKLES

## INSTRUMENTAL TEST

- Corneometer<sup>39</sup>: 48-hour hydration
- TEWL<sup>40</sup>: Improvement in the skin barrier protection
- Dermal Torque Meter<sup>41</sup>: Improvement in extensibility, tonicity, and firmness after 4 hours

## UV PROTECTION RESULTS

50 SUN PROTECTION FACTOR (SPF)  
 18 UVA-PROTECTION FACTOR (UVA-PF)



## SELF-ASSESSMENT AFTER 6 WEEKS<sup>42</sup>



38 - Clinical study evaluating Liftactiv Collagen Specialist 16 SPF 50 on ageing parameters in 42 women, 45-65 years old, 63% with sensitive skin, 1X/Day for 6 weeks. 39 - Instrumental test using Corneometer® to evaluate the Liftactiv Collagen Specialist 16 SPF 50 in 23 women, 22-64 years old, with evaluations every 4, 8, 24 hours and 48 hours. 40 - Instrumental test evaluating the Liftactiv Collagen Specialist 16 Eye Care in 24 women, 18-65 years old one hour after application. 41 - Instrumental test using the Dermal Torque Meter to evaluate the Liftactiv Collagen Specialist 16 Eye Care in 42 women, 45-66 years old, 4 hours after application. 42 - Self-evaluation evaluating Liftactiv Collagen Specialist 16 SPF 50 in 59 women, 45-65 years old, 63% with sensitive skin, 1X/Day for 8 weeks.





COLLAGEN COMPENDIUM

CHY LABORATOIRES

THE ULTIMATE SCIENCE  
OF BOOSTING & BONDING  
THE COLLAGEN MATRIX

C16

VICHY  
LABORATOIRES

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COLLAGEN COMPENDIUM

