

Make a meaningful impact in the collagen market

Discover 5 key learnings from
The Collagen Symposium



Foreword

Collagen is a unique and powerful supplement ingredient with widespread functions in the body and multiple benefits for human health. But the molecule's promising potential in so many health areas, its multiple sources of origin and the vast number of (very different) collagen ingredients available on the market, are contributing to mounting confusion too.

While the market continues to explode – powered by growing awareness of the ingredient and developing science in the field – understanding of different collagen ingredients and their distinctive health benefits is *not* keeping pace. This is making it an increasingly challenging arena in which to operate.

What's fuelling this? Lack of differentiation in the market, ambiguous demographic targets and variations regarding how 'collagen' products are being marketed. This has led the category to become utterly mystifying – for consumers *and* other key stakeholders.

To help brands navigate the complexities of the collagen market and support the growth of the category, we hosted **The Collagen Symposium**.

Bringing together six influential specialists from across the collagen industry, it set out to illuminate key barriers to innovation in the space and inspire solutions that will help to drive the market forward in a more intentional way. The roundtable discussion revealed some remarkable learnings about where the industry is going right (and wrong) and what steps can be taken to address pressing challenges and bring clarity. This report highlights the key conclusions and expert insights from the symposium and outlines how we – as players in the space – can continue to advance the collagen market with purpose, a shared vision and creativity



A handwritten signature in black ink, appearing to read 'Antonio Vendrell'.

Antonio Vendrell
Marketing Director, Bioiberica

Discover 5 key takeaways from the event to uncover the unknown truths set to shape the future of the collagen industry.

Meet the panel



Len Monheit

Executive Director, Collagen Stewardship Alliance



Elizabeth Thundow

VP Consulting Nutrition, Frost & Sullivan



Ingrid Möller MD, PhD

Rheumatologist, Instituto Poal, UB, UIC



David Foreman

Pharmacist and Media Natural Health Expert



Caio Gonçalves de Souza

Head of Medical Affairs at Apsen



Daniel Martinez

Head of R&D Human and Animal Health, Bioiberica

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7 Not all 'collagen' is collagen

Innovation in the collagen market has come a long way. Cutting-edge extraction and purification techniques have supported the commercialisation of many collagen ingredients over the years – all bringing unique benefits across different health areas, including joints, mobility and beauty. But should we be calling these molecules 'collagen' at all?

The main characteristic of collagen is its three-dimensional triple helix structure consisting of three polypeptide chains. Yet 'collagen' is being used as an umbrella term for ingredients with completely different structures, compositions and biological effects.

Take hydrolysed collagen, for instance. Whereas collagen in its triple helix form is a complete protein, hydrolysed collagen is made up of fragments of that protein – a mixture of amino acids and peptides – made by breaking down animal collagen via enzymatic hydrolysis. The 'native collagen helix' has a very specific effect in the body. However, some collagen manufacturers 'cut' native collagen to obtain hydrolysed collagen. The mechanism of action of this molecule is completely different to the complete protein and the end benefit depends entirely on the peptide fractions present.

Not all collagen is the same

It's important to remember that there are 28 types of collagen in the body alone, each with a unique structural role.

Collagen types can be derived from a host of sources. Types I and III are usually obtained from bovine, fish or pork. Whereas type II is commonly derived from chicken sources. Finally, the enzyme used to 'cut' the collagen helix (and for how long) can also influence the end benefit of the final collagen product.

"Veggie" collagen: fad or fiction?

To add further confusion, there is an increasing number of products marketed as 'veggie' and 'vegan collagen' entering the space, which don't contain any collagen proteins or peptides at all. This includes collagen boosters - a mix of different nutrients that support collagen production in the body - and collagen analogues or synthetic amino acids, which mimic the structure of collagen.

Fundamentally, collagen only exists in the skin, tendons, bones and connective tissue of animals. This means that, as it stands, it's impossible to create a genuine plant-based collagen supplement. Bioengineering *may* make it possible to create 'vegan collagen' in the future. But still, there's no scientific evidence to support synthetic collagens and the industry does not yet know if bioengineered collagens will have the same efficacy as the real deal - animal-sourced collagen ingredients.



Getting to know 'collagen'



Gelatin

- Denatured form of collagen
- Easily digested in the body



Native collagen

- Long chain molecules
- Undenatured
- Triple helix, full structure
- Not readily absorbed in the body



Collagen peptides

- Short chain molecules
- Hydrolysed / denatured
- Collagen that has been broken down into peptides and amino acids
- Easily digested in the body

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The term 'collagen' is being used to define products that are very different – different structures, mechanisms of actions, scientific evidence. But all use the descriptor 'collagen'.



Daniel Martinez

Head of R&D Human and Animal Health, Bioiberica

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Hydrolysed collagen is not collagen, it's peptides.



Ingrid Möller MD, PhD

Rheumatologist,
Instituto Poal, UB, UIC

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It's not right to consider all collagen equal - we, as an industry, have to become much clearer about what exactly collagen is, and the benefits it delivers...we don't currently see this level of transparency on products.

Elizabeth Thundow

VP Consulting Nutrition,
Frost & Sullivan





Our message to the market

The misunderstanding about what collagen is, the different ingredients available, how the collagen molecule has been 'cut' or hydrolysed, the many sources of collagen, as well as the different manufacturing methods available, are some of the factors contributing to confusion - both for consumers and the wider collagen space.

In some cases, this has led to consumers using collagen products that don't support the intended health area. The impact of this? Consumers think their collagen supplement isn't working, the trust is broken and they stop taking it.

That said, there's a major opportunity for players in the field to redefine what is meant by the term 'collagen' and take action to demystify the market once and for all.

Our top tips for better understanding the ingredient and dispelling growing confusion:

1

Get clear on the collagen type you're using

2

Identify the best collagen source

3

If hydrolysed, validate the bioactive peptide content

4

Confirm the molecule's specific mechanism of action and beneficial effect

5

Verify the science that backs it up

6

Clearly communicate the above to consumers and medical professionals.

2 Native type II collagen supports long-term joint health

Traditional ingredients for joint support include glucosamine and chondroitin sulfate. However, collagen also plays an important role in joint health and collagen-based supplements are receiving growing interest in the category. But which type?

Hydrolysed (denatured) collagen peptides and native (undenatured) type II collagen have both demonstrated efficacy in joint health. Read on for an expert view on both molecules and how they're supporting innovation in the joint health and mobility categories.

Expert Q&A

Daniel Martinez



What are the key differences between hydrolysed (denatured) type II collagen and native (undenatured) type II collagen?

The two ingredients contain molecules with very different structures and mechanisms of action. Native type II collagen is collagen in its complete form. It is usually extracted from chicken cartilage because up to 90% of collagen in cartilage is type II. Its triple helix structure means that native type II collagen is not easily absorbed and has a specific immune-mediated mechanism of action called Oral Tolerance (which suppresses the body's immune response against endogenous type II collagen). Through this action, it targets the joints specifically, supporting long-term joint health.

Conversely, hydrolysed collagen is not specific for joint health. During the extraction and manufacturing process, hydrolysed collagen has been denatured and 'cut' into smaller peptide molecules. This means that it can be absorbed easily in the body, where it may reach the joints to support joint health, and other areas in the body (like the skin and bones), when supplemented.

What makes native type II collagen an ideal supplement for joint health?

Both native type II collagen and hydrolysed collagen can support joint health – but in very different ways. Through its unique immune-mediated mechanism of action, native type II collagen safeguards endogenous joint collagen from degradation; supporting mobility. Its benefit in joint health is achieved at only 40 mg/day – making the supplement easy to consume.

Hydrolysed collagen supports joint health by stimulating the synthesis of collagen tissues. It works by promoting the production of extracellular matrix and inducing chondrogenic proliferation and differentiation, helping to preserve the cartilage structure.

What are the challenges associated with both collagens?

The effect of hydrolysed collagen depends on the mixture of peptides and amino acids present in the molecule – a combination that is influenced by the collagen source, extraction techniques and manufacturing process. Hydrolysed collagen ingredients on the market can therefore be very different and are commonly *not* specific to joints only. A high dose is also required to be effective (approximately 5-10 g/day), leading to challenging formulation implications.

In addition, both hydrolysed collagen and native type II collagen can take several months to demonstrate efficacy (approximately three) – which may be considered an obstacle to long-term consumer compliance.

Which consumer populations would benefit from native type II collagen?

Younger, active individuals and senior adults could benefit from native type II collagen. However, any individual that wants to proactively support their joint health can take a supplement containing the ingredient.



Our message to the market

The opportunity? Native type II collagen taps into the growing consumer focus on active joint care and sustainable wellbeing.

Did you know, Collavant n2 from Bioiberica is a trusted source of high-quality native (undenatured) type II collagen for joint health innovation?

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Native type II collagen is a pro-health nutritional solution.



Ingrid Möller MD, PhD

Rheumatologist,
Instituto Poal, UB, UIC

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Native type II collagen is a long-term solution that helps to maintain joint health - and so it's great for people who want to take care of their joints and also those individuals that are starting to notice some issues. But hydrolysed collagen serves its purpose too because it is able to stimulate cells to produce more collagen.



David Foreman

Pharmacist and Media
Natural Health Expert



3 Native type II collagen is a 'unicorn' ingredient

What does this mean?

Native type II collagen doesn't taste or smell bad, is easy to formulate and supports the development of most supplement delivery formats. But it's not without its challenges...

One limitation of native type II collagen is that it's insoluble. This makes it difficult to use native type II collagen in some formats, like functional foods. Despite this, advancements *are* being made to overcome barriers related to the molecule's insolubility – creating even more opportunities for formulation in the space.

A winning combination

As well as being described as a 'unicorn ingredient', native type II collagen can be easily combined with other ingredients, facilitating multi-ingredient formulation, thanks to its efficacy at a low dose. In fact, growing evidence demonstrates that it is compatible with the mechanism of action of other ingredients – delivering added health benefits when combined.

A view from the Natural Pharmacist

David Foreman

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We know that native type II collagen helps to maintain joint collagen - so it's a great supplement for individuals who want to take care of their joints to maintain an active lifestyle, healthy independence and a rich quality of life. But in my experience, these consumers are likely experiencing some joint discomfort too.

So why not consider a formulation that supports joint health in the long-term, while managing discomfort at the same time?

For example, native type II collagen plus *Boswellia serrata* - an anti-inflammatory herbal extract - can provide relief to individuals in just eight days (*Boswellia serrata*), while also supporting the prolonged health of their joints (native type II collagen).¹ Or why not native type II collagen plus hydrolysed collagen? Although this combination is yet to be explored, it might potentially be a marriage made in heaven as it could give the body the tools it needs to nurture cartilage growth (hydrolysed collagen) while supporting joint health longer-term (native type II collagen).



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A top tip from me is – if you’re going to combine ingredients, have a reason for it. Don’t overcomplicate the formulation and effectively communicate the value of every single ingredient you use. This includes explaining the effect and benefit of the ingredient in the body and the combined benefits of the ingredients together.



Caio Gonçalves de Souza
Head of Medical Affairs at Apsen



Our message to the market

The formulation opportunities are endless in the collagen market! Native type II collagen, in particular, is a promising ingredient that supports multi-ingredient product development. With this in mind, manufacturers can tap into the growing holistic health trend by combining native type II collagen with other ingredients to target overall mobility.

Not sure if your ingredient combination will work in reality?
Click here to speak to one of our experts

4 The compliance conundrum

To benefit from a supplement, it's important to take it on a regular basis. However, this can be challenging in the collagen market. Why?

Key factors influencing the compliance of any dietary supplement are:

- Ease of taking the product
- How it makes an individual feel
- Time it takes to observe the health benefits
- Overall experience of taking that supplement.

Many proteins, including hydrolysed collagen, require a high dose to be effective – and are therefore usually delivered via powder formats. Not only does this present a limitation for traditional delivery formats, like pills and functional foods, but it can be more difficult to consume collagen long-term – especially for non-athletes, who are not used to powder-based supplements.

One way to tackle this is by harnessing the power of low-dosage ingredients. Native type II collagen is only needed at **40 mg/day** and does not modify the flavour or properties of the finished product – which strongly resonates with consumer preferences in the health ingredient market. Native type II collagen also supports the development of several delivery formats – whether it's a pill, functional food, gummy product or film-strip – and can therefore be formulated to appeal to different consumer demographics.

Food for thought

Preserving the three-dimensional helix structure of native type II collagen is challenging, but critical to maintaining its mechanism of action and unique benefit in the joint cartilage.

To introduce the ingredient into complex formats – like functional foods – it's necessary to develop specialised analytical methods that allow the molecule to be characterised so its quantity in the formula can be stated on the label.



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If you want really high penetration in any consumer group, getting your ingredient into an every-day functional food is the ultimate win. Look at the omega-3 market for inspiration!



Elizabeth Thundow
VP Consulting Nutrition,
Frost & Sullivan

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Overall, only 40% people will comply with regular supplement intake. This means that the rest of the population is not benefiting from the supplement, because they're not taking it enough. If you can make taking a supplement an experience for the consumer, you'll boost the uptake of that product and consumers will reap the benefits of that ingredient.



Len Monheit
Executive Director at
Collagen Stewardship Alliance

Our message to the market

Make it easy for consumers.
As you consider formats, product development and the co-formulation of different ingredients - champion convenience as it will power compliance and drive positive health outcomes. The added benefit? Consumers will come back for more!





Want to find out how our Collavant n2 native type II collagen ingredient is making leaps and bounds in the nutrition space to support the development of innovative and appealing product formats, including gummies, ready-to-drink shakes and protein blends? [Click here to find out more](#)

5 Step into the future with science

Want to be part of the future of the collagen market? Then make science a priority. Science is set to become the *major* driver of progression and success in the collagen landscape. This aligns with broader demands for health and nutrition solutions that offer scientific evidence.

There is a growing need to investigate and determine the mechanism of action of different collagen ingredients and then explore which combinations of ingredients bring benefits to health. Who knows... perhaps native type II collagen and hydrolysed collagen could be combined one day to create the ultimate collagen product. But until then, it's important to make sure that ongoing research is targeted – whether that's specific to the collagen type, consumer group or health indication. What does this mean for you? The best way to make an impact in the collagen arena – including the joint health category – is to tap into the power of science-backed ingredients and contribute to growing research in the space.



Did you know?

The Collagen Stewardship Alliance is developing a platform to set a new standard in the collagen market. The certification will assess the manufacture of collagen, including the source of the ingredient, the clinical research supporting its efficacy and effective dose, as well as other factors, like sustainability. This will enable the producer – and subsequent finished product or brand – to become collagen verified.

Benefits of research and scientifically-supported solutions



**Ingredient
credibility**



**Product
trust**



**Supports
health claims**



**New avenues
for innovation**

The future is far from risk-free...

Our message to the market

The future is far from risk-free. But having robust science to support your product innovation will limit the potential for risks – and consequent failure in the market. Make sure your ingredient is endorsed by multiple scientific studies (pre-clinical and clinical), is highly efficacious and proven to nurture health.

Expert recommendations

The collagen industry is moving at rapid pace. *But is it time to walk before we run?*

To sustain this remarkable growth, it's imperative that all industry stakeholders align on transparency, education, science and innovation. Only through this collective effort can the collagen market continue to thrive – and offer a world of health and wellness benefits to its increasing consumer base.

We think there is a huge opportunity to rethink how collagen is positioned in the health and nutrition market – and start unravelling some of the misconceptions linked to the molecule. We've highlighted some top tips to help you navigate and shape the future of the collagen market more effectively – and support the wider mission of empowering the healthcare evolution.



1 Education will power the market forward

- Education starts from the top down – understanding what collagen is and its associated benefits (depending on type, source, manufacturing process, etc.) needs to improve across the industry first and foremost.
- Create clear definitions for the different collagen forms, e.g., native versus hydrolysed.
- Take responsibility for the message you put out – and simplify it, so it's easy to digest.
- Help consumers understand what type of collagen to take and why they should take it.

2 Champion health now, rather than later

- Don't underestimate the benefits of putting in the effort to support health in the here and now.
- Communicate the value of active care versus cure to consumers, and the role that collagen supplementation can play here – including in joint health and mobility.

3 Break down barriers to consumption

- Improving compliance should be a key question during the product development process. Always consider how you can improve consumer experiences through careful ingredient selection and novel product formulation.

4 Step up with science

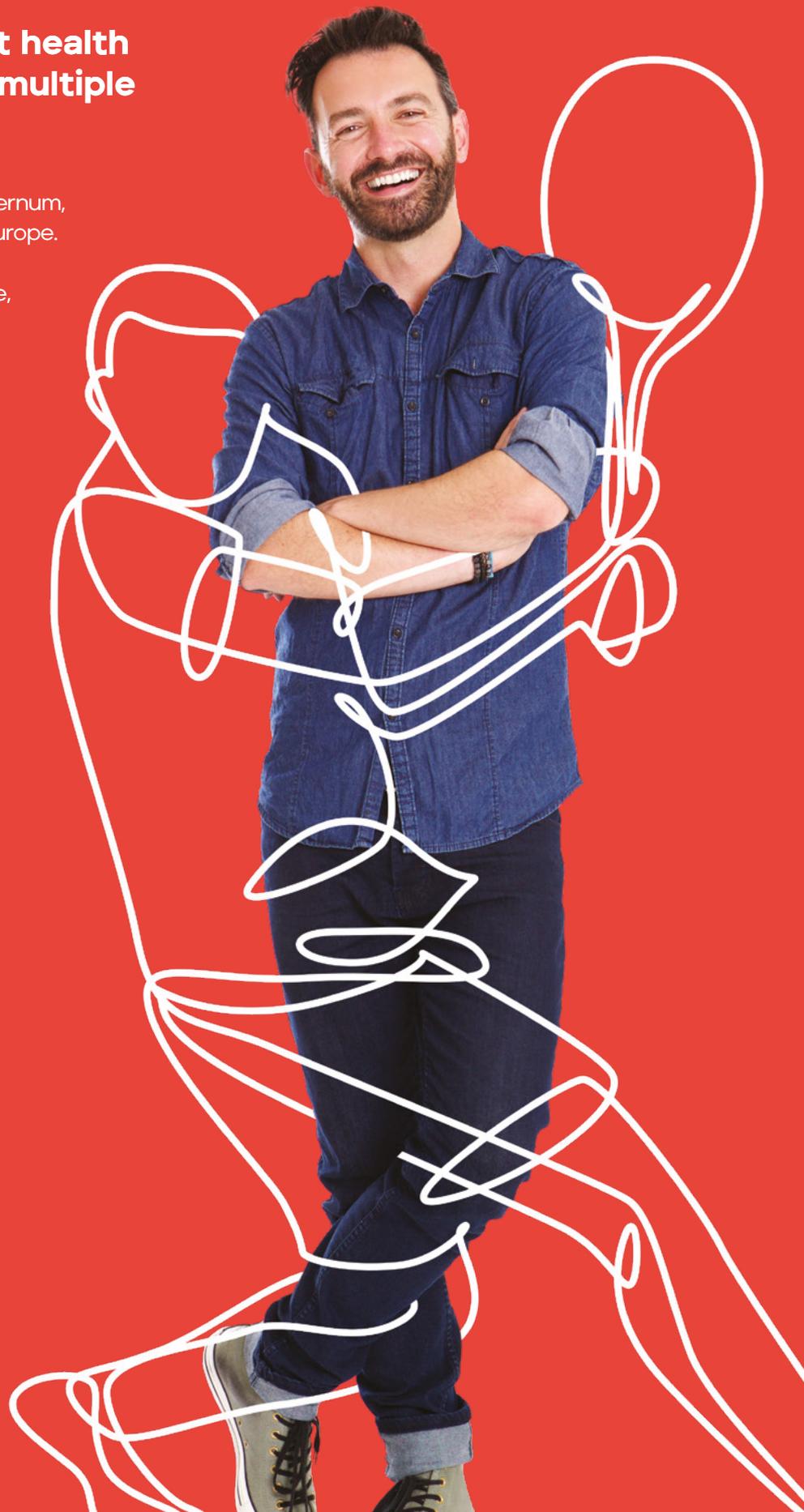
- The only way to advance the collagen market is to help develop the science behind the ingredient and bring more evidence to the fore.
- Don't forget though, consumers are *already* demanding science-supported solutions; so make sure you're using evidence-based collagen ingredients in your formulation.

Make your move with **Collavant n2**

Collavant n2 is a next joint health innovation, supported by multiple scientific studies.

A trusted source of native (undenatured) type II collagen extracted from chicken sternum, it is 100% sourced and manufactured in Europe. Through a strictly controlled process that preserves the active parts of the molecule, ingredient quality is preserved, every time.

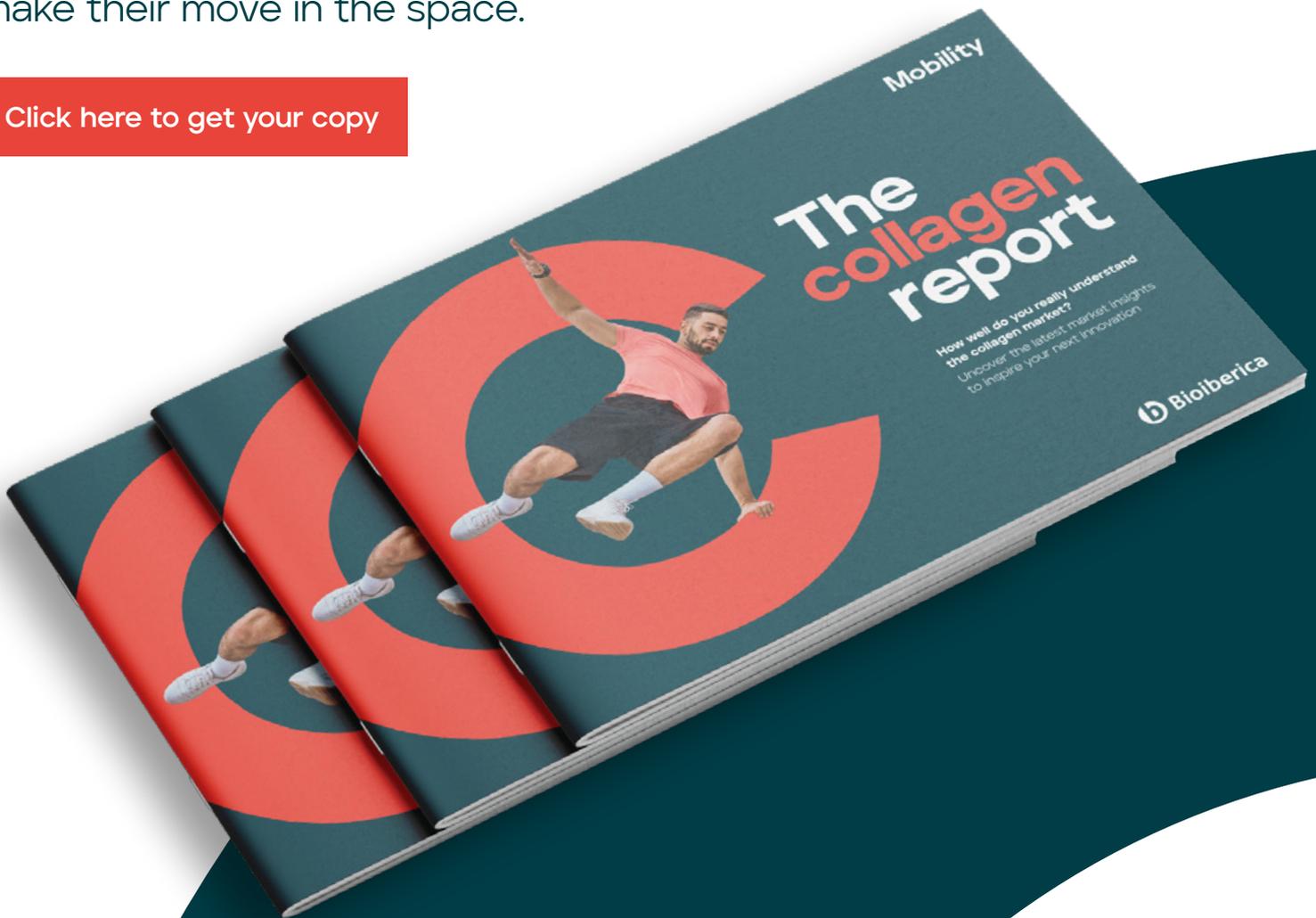
**Stay one step ahead
with Collavant n2.**
[Click here to learn more.](#)



Enjoyed this report?

Why not check out '**The Collagen Report**' for a deep dive into collagen market trends, insights about today's collagen consumer, the growing joint health category and how Bioiberica's native (undenatured) type II collagen – Collavant n2 – is helping brands make their move in the space.

[Click here to get your copy](#)



About Bioiberica

We believe that collaboration and shared insights are key to empowering the healthcare evolution – and creating future-facing solutions in growing and emerging health areas.

Bioiberica is a global Life Science company with more than 45 years of experience in the identification, extraction and development of molecules of high biological and therapeutic value for the pharmaceutical and nutraceutical industries.

This specialisation positions Bioiberica among the leading Heparin API manufacturers and as a world reference in the research, production and sale of other biologically-derived APIs and ingredients, such as thyroid, chondroitin sulfate, glucosamine, native type II collagen and hyaluronic acid. Bioiberica has consolidated its position as an expert in joint health and mobility thanks to a constant commitment to science and research.

References

1. Jain et al. AflaB2[®] and osteoarthritis: a multicentric, observational, post-marketing surveillance study in Indian patients suffering from knee osteoarthritis. International Journal of Research in Orthopedics, 2021.

These statements have not been evaluated by the Food and Drug Administration or other competent food authorities. The product is not intended to diagnose, treat, cure, or prevent any disease. This information is only for business-to-business use and not meant to be addressed to final consumers. Therefore, Bioiberica assumes no liability for the statements that the producer of the final product may include in its own publicity to consumers.