



NAMING AND CLAIMING

Pro- and postbiotic | Not only in nutrition, but also in cosmetics, the effect of pro- and postbiotic ingredients is appreciated as health-promoting. However, the use of these claims in the beauty sector must be used with caution. Harald von der Hoeven knows which conditions must be met for which designation.



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Cosmetic claims are not the most exciting aspect of our industry. We are under increased scrutiny, however. Cosmetic brands need to watch their words and be careful with what they say and claim about their products. As an industry, we should not lie or make promises which we cannot keep. This is logical, understandable, and probably better for the relationship we have with our consumers.

In this context, the use of **'bacterial ingredients'**, i.e., lysates or filtrates of dead bacteria, or molecules produced by bacteria, has been enjoying a lot of attention in the past few years, also in the marketing of cosmetic products. Many brands communicate about their products containing ingredients based on fermentation, probiotics or postbiotics. Consumers show interest in fermentation as a potentially rich and sustainable source for interesting

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raw materials. They also understand that we have good bacteria living on and in our bodies. They appreciate it when ‘probiotics’ or ‘postbiotics’ are used in cosmetic products, making these words popular in the marketplace. From a regulatory point of view, there are a few ‘ifs and buts’, though.

‘Probiotic’ versus ‘postbiotic’, what claim/wording is allowed? What is not? We see many brands making ‘postbiotic’ claims. ‘Postbiotic’ is, for the consumer, an appealing description for a product or ingredient. They associate ‘postbiotic’ with ‘probiotic’. What does that mean anyway?

Claiming ‘probiotic’

There are multiple sources for relevant definitions in these cases. An important source is the well-recognised institution **ISAPP**, the International Scientific Association for Probiotics and Prebiotics¹. Its experts have published scientific articles in which they exactly define probiotics² as “live microorganisms which when administered in adequate amounts confer a health benefit on the host” (in agreement with definition of the **WHO**, the World Health Organisation).

It is obvious that the word ‘probiotic’ is associated with living microorganisms. The use of the word ‘probiotic’ can be considered to be a risky endeavour, even when wording is chosen which might imply that the cosmetic product does not contain any living microorganisms.

An American well-known high-quality brand was hit with a class action lawsuit, because of the wording they used. They claimed, ‘probiotic technology’, where the plaintiff in this lawsuit interpreted this claim to imply that the product in question contained live microorganisms where, in reality, it did not.

It is safe to say that the use of the word ‘probiotic’ on a cosmetic product which does not contain live microorganisms, is not advisable.

Is ‘postbiotic’ a safer claim?

ISAPP’s definition of postbiotics³ reads: “preparation of inanimate

microorganisms and/or their components that confers a health benefit on the host”. In this publication from 2021, this definition was further specified in large detail. According to this, they are derived from microorganisms, deliberately inactivated microbial cells with or without metabolites or cell components. In their publication, ISAPP also described what they do not consider to be postbiotic: viruses and bacteriophages, vaccines, filtrates without cell components, purified microbial components (e.g., proteins, peptides, exopolysaccharides), purified microbial metabolites (e.g., organic acids).

The above makes the use of the claim ‘postbiotic’ tricky: inactivated microbial cells or cell components need to be present in the ingredient. A probiotic lysate fits the definition, and a probiotic filtrate or extract might not. Purified molecules which are obtained via biotechnological means do not fit the definition either.

There is a different definition of ‘postbiotic’, however. This definition stems from the **ICCR**, the International Cooperation on Cosmetic Legislation and can be found on their website⁴. According to this document, the ICCR considers a postbiotic to comprise “inanimate ingredients of microbial origin added to a cosmetic product with an intended cosmetic benefit. These components can either be cells or cell fractions, a filtrate of a fermentation or a metabolite of a microorganism.” The definition is based on Aguilar-Toalá et al., 2018⁵.

As is clear, there are some important conflicts between the definitions

of the ICCR and ISAPP. The ISAPP clearly does not identify filtrates and pure molecules to be postbiotic, but ICCR does.

Conclusion

Whereas the use claim ‘probiotic’ is not advisable, ‘postbiotic’ is clearly a safer claim to make. Although the ISAPP definition of ‘postbiotic’ might well be scientifically more valid, it is however probably feasible to think that the ICCR’s definition will be taken seriously by the competent authorities. This is because of ICCR’s status with these authorities, the ICCR represents these authorities themselves.

As with all regulatory agencies, it is important to realise, though, that definitions may continue to change. It is therefore important, as a cosmetic industry, **to remain aware of the ever-evolving landscape of cosmetic claims** and consumer interests. One thing is for sure, though, beneficial microbes and cosmetic ingredients based on them are here to stay in our industry. □

References

- 1 International Scientific Association for Probiotics and Prebiotics, <https://isappscience.org>
- 2 The International Scientific Association for Probiotics and Prebiotics consensus statement on the scope and appropriate use of the term probiotic. Hill C et al., *Nat Rev Gastroenterol Hepatol.* 2014 Aug;11(8):506-14. doi: 10.1038/nrgastro.2014.66. Epub 2014 Jun 10, <https://www.nature.com/articles/nrgastro.2014.66>
- 3 The International Scientific Association of Probiotics and Prebiotics (ISAPP) consensus statement on the definition and scope of postbiotics. Salminen S et al., *Nat Rev Gastroenterol Hepatol.* 2021 May 4. doi: 10.1038/s41575-021-00440-6. Online ahead of print. PMID: 33948025, <https://www.nature.com/articles/s41575-021-00440-6>.
An interesting infographic helping to interpret this definition: <https://isappscience.org/postbiotics-infographic>
- 4 <https://www.iccr-cosmetics.org/topics-documents/14-microbiome>, “Working definitions & microbiological assessment considerations”
- 5 Aguilar-Toalá et al., Postbiotics: An Evolving Term Within The Functional Foods Field. *Trends Food Sci Technol.* 15, (2018), PP 105–114.

Pro- and postbiotics are of microbial origins, but according to scientific definitions, they differ in whether they are alive, and have living components or not.

