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Eat Smart

Postbiotics are coming to a plate near you

If you've finally come around to taking probiotics, we have important news. Postbiotics are here to upgrade your gut health all over again. *WH* reports on the bacteria that has researchers buzzing

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You can always count on popular culture to make you feel like the last person to join the party. So spare a thought for those on the front line of the most talked about topic in wellness. Because while scientists were producing reams of research on pre- and probiotics for everything from menopause to mood, along came a new bacteria.

Postbiotics are quickly becoming the biggest news in gut health. Loosely defined as the by-product of your microbiome, they're thought to deliver health benefits as diverse as boosting your immune system to treating chronic conditions. No wonder researchers are falling all over themselves to study them, with half of all scientific studies on postbiotics published since 2021. But the topic is generating interest outside the lab, too – Google searches for the term have increased by over 1,000% since 2019. So, what's all the fuss about?

Post-biopic

If this is the first you're hearing about the things, you're in good company. Until a few years ago, scientists didn't have a clue what they were either. In fact, they couldn't agree on a definition until 2019. 'We now define a postbiotic as a "preparation of inanimate microorganisms and/or their components that confers a health benefit on the host",' says Colin Hill, a microbiologist at the University College Cork in Ireland. 'What we really mean is that postbiotics are microbes that have been killed but have still been shown by rigorous science to have a positive impact on health,' Hill adds. Think of them as

the gut version of Casper the Friendly Ghost – the dead (but still useful) bacteria left behind after pre- and probiotics have been digested in your body.

As to why it took longer than a Brexit negotiation to get on the same page? Egos aside, it was mainly down to a lack of expertise. 'We've known about postbiotics and their potential for a while, but until recently, we didn't have the knowledge to study them effectively,' says Olivia Morrison, a nutritionist and dietitian at the health and wellness app Keep It Cleaner (KIC). And now that we understand? 'This new research is redefining a lot of what we knew about biotics and the gut microbiome,' explains Morrison.

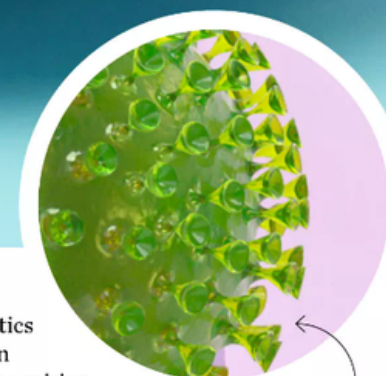
Hot topic

But how, exactly? For starters, early evidence suggests that postbiotics can improve your body's resistance to harmful bacteria by reducing inflammation, strengthening the gut barrier and supporting what's known as the gastrointestinal mucosa (the innermost layer of the gut wall responsible for regulating your immune system). And thanks to human trials, scientists are confident that postbiotics can help to alleviate the side effects of vaccinations in elderly people, while also offering relief for a variety of conditions, from deadly paediatric infectious diseases, such as bacterial diarrhoea, to urinary tract infections and gastrointestinal diseases, including colitis. 'And that's just the beginning,' adds Morrison. 'Although much more research on postbiotics needs to be done, current evidence on postbiotic health benefits is very promising.'

One of the *most* promising parts of this story? The potential of postbiotics to support women's


£48
billion

is the price the probiotics market was last valued at



The sweetest biotic yet

health. Let's start with the M word. A 2018 meta-analysis published in the *Journal Of Medicinal Food* found that consuming soya isoflavones, an ingredient found in soya beans, could boost the production of a postbiotic called equol. Since it shares a similar structure to oestrogen, equol has been linked to reducing menopausal symptoms, particularly hot flushes. Then there are the cancer-fighting capabilities that postbiotics bring. In 2017, a paper published in *Lipids In Health And Disease* supported the theory that butyrate, a postbiotic and short-chain fatty acid, could help to regulate a process known as apoptosis – aka the death of cancer cells. Yes,

you read that correctly. Postbiotics could play a role in curing cancer. 'Recognising the role that microbes play in host health, the microbiome has been one of the most exciting developments in our understanding of human health in recent decades,' says Hill, with the caveat that we're still a few steps away from being able to produce postbiotic-powered pills. 'What needs to follow is the development of interventions, treatments or therapies,' he advises.

But when that moment arrives, it's possible that postbiotics might be even more effective at boosting health than probiotics, says Mays

Al-Ali, gut health nutritionist and owner of Healthy Mays clinic. The reason behind this, she says, is less complicated than you might think; while probiotics that live in your gut are animate microbes, postbiotics are inanimate. 'This makes them more stable and easier to extract, standardise, transport and produce as a supplement,' Al-Ali explains. The probiotics market was last valued at almost £48 billion, so you can imagine how game-changing and lucrative this industry could be.

What supp

Perhaps unsurprisingly, brands have been paying close attention.

In fact, a handful of supplements are already on the market. Sold as liquid sachets, gummies and capsules, all claim to boost gut health and immunity. Some brands have taken it further by adding postbiotic ingredients to combined supplements, with claims that they can ease menopausal symptoms and alleviate hormone imbalances. But Morrison isn't convinced. 'I wouldn't recommend buying any supplements that are currently available,' she says – for one simple reason.

'You shouldn't rely on any companies' claims unless their postbiotic supplement has been tested in human trials. I haven't found one yet that meets this criteria, with the majority referencing animal studies or human trials that aren't done on the supplement they're selling,' Morrison adds.

That said, there may be exceptions to this rule for certain people, suggests Libby Linford, a nutritional therapist, functional medicine practitioner and founder of the Surrey Centre for Nutrition. Those who have gastrointestinal health issues such as irritable bowel syndrome, for example, who can't consume prebiotic foods without bloating. If that's you, it's best to book an appointment with a nutritionist and consider taking a stool test to check the current contents of your gut before choosing a supplement, Linford adds. And when you do choose a supplement? Stick to a high-quality option that contains as few binders, bulking agents and fillers as possible. To spot these, look out for sugar derivatives, such as cellulose, and common fillers, including salt, rice flour and sugar, on the ingredients list. Basically, the purer the better.

Plate expectations

On the question of where we go from here, every expert who contributed to this piece agreed that the postbiotic potential is huge – with the possibility of using postbiotics to treat specific health conditions for studies in the future. But for now, optimising your postbiotic production begins with your diet. 'Eating a healthy and balanced diet, focusing on plant diversity and regular consumption of both pre- and probiotic foods is

Start by piling your plate with plant-based foods that are rich in both prebiotics and probiotics

the best way to increase postbiotic intake,' says Morrison.

Start by piling your plate with plant-based foods that are rich in both prebiotics (broccoli, chickpeas, peas and beans) and probiotics (yoghurt, sourdough bread, pickles and kombucha). 'You want to increase the consumption and variety of plant-based foods, the fibres of which support the bacterial production of postbiotics naturally,' says Linford. In terms of quantity, there's no defined amount and overconsumption isn't a risk. Instead, aim for 10 portions of plant-based foods per day with as much variety as possible. Also keen to top up those naturally produced postbiotics? Butyric acid, one of the most well-researched postbiotics, can be found in butter, hard cheese and yoghurt. So while you have yet to form an opinion on a certain royal memoir, at least your gut is trending. **WU**

 **Bite back for your health**



10

portions of plant-based foods per day

THE BIOTIC BREAKDOWN

How to tell these gut MVPs apart, according to nutritionist Mays Al-Ali



PREBIOTICS

Plant fibres that act as food for good bacteria in the gut. You'll find them in bananas, onions, garlic, Jerusalem artichokes and whole grains, such as porridge oats.



PROBIOTICS

Live microorganisms found in the gut, they confer a wide range of health benefits. As well as live yoghurt, they're found in fermented foods such as kombucha, sauerkraut, kimchi, miso, tempeh and kefir.



POSTBIOTICS

These are bioactive compounds produced by pre- and probiotics in the gut. They can be found directly in foods such as yoghurt, hard cheese and butter. The best way to increase postbiotics is to consume more pre- and probiotic foods.



PSYCHOBIOLOGICS

These are live organisms that affect your cognitive state and can be found in the same range of foods as pre- and probiotics.