

Sporevia probiotic can reduce staph colonization by more than 95%, study finds

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Kerry Group's probiotic strain Sporevia (*Bacillus subtilis* MB40) can eliminate *Staphylococcus aureus* in the human body by more than 95%, a clinical trial has found.

Staphylococcus aureus (*S. aureus*), commonly known as "staph", is a pathogen that caused over 119,000 infections and nearly 20,000 deaths in the US in 2017.¹ However, the use of oral antibiotics for staph decolonization is advised against because of its effect on the gut microbiota and antibiotic resistance.²

Sporevia (*Bacillus subtilis* MB40) is a probiotic strain owned by Kerry Group following the licensing agreement with the company BIO-CAT Microbials in June 2021.

The double-blind, randomized, placebo-controlled trial was conducted following the discovery that Sporevia secretes fengycin, which has been shown to inhibit *S. aureus* colonization.

One hundred and fifteen adults from Thailand took part in the study, which was funded by the US National Institutes of Health and the National Research Council of Thailand. All were colonized by *S. aureus*, either in the intestine, nose, or both, but had no history of intestinal disease, antibiotic treatment, or hospital admission within the previous 90 days.²

They received either 250 mg of Sporevia* (10 billion CFU) or placebo once a day for 30 days, after which S. aureus colonization was determined. Oral supplementation with Sporevia resulted in a 96.8% reduction of S. aureus in the stool and a 65.4% reduction of S. aureus in the nose whereas there were no significant differences in the placebo groups.

Furthermore, these levels of decolonization were achieved without adverse effects or significant microbiome changes. According to the researchers, the findings indicate potential for *Bacillus subtilis* to be used to lower infection rates in vulnerable individuals, and in long-term care facilities such as nursing homes.

"We were delighted to have Sporevia selected for this study," says John Menton, PhD, Senior Product Director, Digestive Health, at Kerry Group. "We have long understood the power of spore-forming probiotics to produce metabolites, enzymes and, depending on the strain, fengycins which may inhibit the growth of deleterious bacteria. In this case the study found that Sporevia produces higher amounts of fengycins than other probiotic strains considered for the study, which made it a great candidate for further research. While we're not surprised by the conclusions, it's always great to see hypotheses based on in vitro and animal model data supported by clinical trial results. This study is very encouraging as it demonstrates Sporevia's potential in bacteria management." View the full study at: https://www.thelancet.com/action/showPdf?pii=S2666-5247%2822%2900322-6

* The *B. subtilis* probiotic formula (Sporevia) was purchased from Kerry Group but the suppliers did not have any influence on the study design or interpretation.

Find out more about the Kerry ProActive Health portfolio here.

References

¹ <u>https://www.cdc.gov/media/releases/2019/p0305-deadly-staph-infections.html</u>

² Piewngam, P., Khongthong, S., Roekngam, N., Theapparat, Y., Sunpaweravong, S., Faroongsarng, D., & Otto, M. (2023). Probiotic for pathogen-specific Staphylococcus aureus decolonisation in Thailand: a phase 2, double-blind, randomised, placebo-controlled trial. The Lancet. Microbe, 4(2), e75–e83.

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