

Emerging issues in probiotic safety: 2023 perspectives

ABSTRACT

Probiotics are used for both generally healthy consumers and in clinical settings. However, theoretical and proven adverse events from probiotic consumption exist. New probiotic strains and products, as well as expanding use of probiotics into vulnerable populations, warrants concise, and actionable recommendations on how to work toward their safe and effective use. The International Scientific Association for Probiotics and Prebiotics convened a meeting to discuss and produce evidence-based recommendations on potential acute and long-term risks, risks to vulnerable populations, the importance for probiotic product quality to match the needs of vulnerable populations, and the need for adverse event reporting related to probiotic use. The importance of whole genome sequencing, which enables determination of virulence, toxin, and antibiotic resistance genes, as well as clear assignment of species and strain identity, is emphasized. We present recommendations to guide the scientific and medical community on judging probiotic safety.

What is the context? Probiotics, available to healthy consumers as both dietary supplements and foods, are also used by some patient populations. The goal of this paper is to determine if any new factors have emerged that would impact current views about probiotic safety for both these populations.

They also make recommendations regarding emerging safety considerations. Probiotics targeted for patient populations should undergo stringent testing to meet quality standards appropriate for that population, preferably verified by an independent third party.

The safety of probiotics derived from species without a history of safe use must be considered on a case-by-case basis. Research is needed to address some gaps, for example which best animal models to use for safety assessment of live microbes, the possibility of antibiotic resistance gene transfer via transformation, and potential impact of probiotic-induced changes in microbiomes, interactions with drugs, and probiotic colonization.

Daniel Merenstein, Bruno Pot, Gregory Leyer, Arthur C. Ouwehand, Geoffrey A. Preidis, Christopher A. Elkins, Colin Hill, Zachery T. Lewis, Andi L. Shane, Niv Zmora, Mariya I. Petrova, Maria Carmen Collado, Lorenzo Morelli, Gina A. Montoya, Hania Szajewska, Daniel J. Tancredi & Mary Ellen Sanders (2023) Emerging issues in probiotic safety: 2023 perspectives, *Gut Microbes*, 15:1, 2185034, DOI: 10.1080/19490976.2023.2185034.

Questions:

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Find 6 keywords.