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There are many more cons for probiotics

To the Editor:

Suez and his Israeli research group [1] should be congratulated for their perspective on pros, cons, and unknowns of probiotics. They comprehensively highlighted the key topics, biased limitations, and lack of long-term safety of probiotics.

Per definition, probiotics should have beneficial effects on human health, but it appears that they have some potential

detrimental effects [2]. In this regard, some additional aspects of their dark side should be enumerated. Their horizontal gene transfer to the microbiome of hostile genes, such as antibiotic resistant genes [3,4] have not been examined. In addition, their corresponding bacteriophage effects and synergistic incorporations of virulent genes [5] and their induction of D-lactate, metabolic acidosis, intestinal bacterial overgrowth, gas, bloating, and brain foggi-ness [6] are still under investigation.. The gastrointestinal, allergic, genetic, immu-nogenic, and toxic adverse effects have not been highlighted.

Probiotics are widely used in the pro-cessed food industries. A large number of them have been granted the status of generally regarded as safe (GRAS) from the U.S. Food and Drug Administration. Nevertheless, many carry antibiotic resistant genes and other hostile mobile factors like microbial transglutaminase, which was recently suggested to affect autoimmunity [7]. More intriguing is the fact that at least 6 systemic reviews and 16 meta-analysis have recently criticized the probiotic publications as being poorly designed, not standardized, and biased [2]. In addition, the studies were noted as hav-ing too high levels of variance and with-drawal rates incompletely reported, as well as under reporting safety concerns, lacking adequate transparency, and being exten-sively sponsored by manufacturers [2]. Since the probiotics market is booming and many medical and functional indications for their consumption are debatable, yet not substantiated [2], the certainty of their safety is a matter of concern [8].

For a more balanced view, it should be stressed that probiotics were suggested as a parallel or additional therapeutic strategy in autoimmune diseases treatment, but the

jury is still out [9-11]. A better understand-ing of the human intestinal microbiome, before loading the gut with problematic and unclear beneficial probiotic cargo, is highly recommended.

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“Nobody can be exactly like me. Sometimes even I have trouble doing it”

Tallulah Bankhead (1902–1968), American actress of the stage and screen known for her husky voice, outrageous personality, and devastating wit

“We confess our little faults to persuade people that we have no large ones”

Francois de La Rochefoucauld (1613–1680), French author