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Probiotic Sport Beverage Development and Health Benefits

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Several strategies have been used to improve sports performance, some of which can present health risks. Supplementing the diet of sportsmen with whey proteins is a safe and effective practice due to the high concentration of branched chain amino acids of these proteins which play an important role in the stimulation of protein synthesis. The regular consumption of probiotics by athletes can confer numerous benefits, such as the activation of the immune system, which is of great relevance due to the high risk to which physical activity practitioners are subject, to present depression of the immune function after exhaustive tests. Exhaustive physical exercise brings a series of changes in the immunity of individuals and usually results in depression of the immune system, free radical production and protein catabolism, and this temporary suppression called the “open window” of immune suppression is responsible for a greater risk of infections during physical training. Phenols present in pomegranate can combat oxidative stress and improve exercise performance, as noted in a previous study in this research group. The research developed by our group showed that the supplementation of Wistar rats with sport beverage with added whey protein concentrate, probiotic (*B. animalis* BB12) and pomegranate juice (*Punica granatum*, L.) accelerated the transit intestinal, reestablished the microbiota (improved the proportion of *Lactobacillus* species, and decreased *Clostridium* species) and intestinal barrier function, impaired by intense acute exercise.