HP-37: Capacity of *Enterococcus durans* isolated from the intestinal microflora of infants to produce exopolysacharides with a beneficial effect on health

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Subject description: In recent decades, natural polymers have attracted the attention of scientific communities due to their therapeutic potential. In particular, EPS extracted from probiotic bacteria with varied carbohydrate compositions has many beneficial properties.

Objectives: This study aims to evaluate the probiotic abilities of the *Enterococcus durans* strain isolated from the infant faeces samples, and their capacity to produce exopolysaccharides and antimicrobial compounds which include bacteriocins, diacetyl, organic acid, dioxide of carbon in vitro.

Methods: Infant faeces samples were used to isolate *Enterococcus durans* colonies; they were then screened using the spread plate technique on agar media (De Man, Rogosa, and Sharpe). The extrapolysaccharide (EPS) was extracted from the culture free supernatant and assayed for its radical scavenging activity.

Results and discussion: *Enterococcus durans* showed the highest production of extrapolysaccharide and had better probiotic properties, capacity of antibacterial activity. The selected strain had good autoaggregation characteristic and a high surface hydrophobicity that enhanced its adhesion ability to epithelial cells.

Conclusion: Our results reveal the probiotic potential of the strain tested and a good capacity for EPS production which showed strong bacterial anti-activity against the pathogenic strains E.coli and S. aureus.

Keywords: *Enterococcus durans*, probiotics, lactic acid bacteria, exopolysaccharides,