

The human *Bifidobacterium infantis* DZ secretes a bacteriocin-like antibacterial substance active *in vitro* and *in vivo* against enteropathogenic *E. coli*, the major cause of child diarrhea in Algeria

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Six species of *Bifidobacteria* were tested towards enteropathogenic *E. coli* (EPEC) by the spot on-lawn and the well diffusion methods. The six strains were active with the both tests; however *Bifidobacterium infantis* showed the greatest effect with inhibition zones diameters of 18 and 12 mm respectively. The inhibitory activity of the supernatant was assumed to be due to bacteriocin-like substances since the treatment with three proteases (pepsin, papain, trypsin) resulted in a decrease in the inhibition zones diameters. These indicate that the active substances are of proteinaceous in nature. The active substances were efficiently concentrated using ammonium sulphate (60%) precipitation method followed by deionisation and partial purification on Sephadex G-75 gel. From the results obtained *in vitro*, the partially purified bacteriocin-like substance was used in an *in vivo* study using young holoxenic wistar mice. Administration of skimmed milk containing 160 AU/ml of the active substance to diarrheic mice infected with EPEC induced an arrest of the diarrhea concomitant with recovery of a good health status of the treated mice compared to the untreated ones.

Biography

Farida Bendali has completed her Ph.D in 2009 and her "habilitation [HDR]" "Habilitation à Diriger des Recherches") in 2011 from Bejaia University. She is a searcher at the Applied Microbiology Laboratory (Bejaia University). Her research interest is on Molecular microbiology, particularly in relation with Food Safety, Probiotics and Bacteriocins, Adhesion and biofilm formation of Lactic acid bacteria and pathogens on biotic and abiotic surfaces. She is a teacher at the Microbiology Department, Nature and Life Sciences Faculty, Bejaia University (Algeria), She is a Professor associate since 2011.

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