In vitro activity on human gut bacteria of murta leaf extracts (Ugni molinae Turcz.), a native plant from southern chile. - DTU Orbit (06/11/2019)

**In vitro activity on human gut bacteria of murta leaf extracts (Ugni molinae Turcz.), a native plant from southern chile.**

Despite the fact that murta infusions have been used to treat gut/urinary infections by native Chileans for centuries, the mechanisms promoting such effects still remain unclear. As a first attempt to unravel these mechanisms, human fecal samples were incubated in a medium containing water extract of murta leaves (ML) and the growth of different bacterial groups was evaluated. Control incubations were made in media containing fructooligosaccharides (FOS) and glucose as a carbon source. Phenolic compounds in the ML extract, likely promoters of bioactivity, were identified by HPLC–DAD–MSn. Concentrations (log10 CFU/mL) of bifidobacteria and lactobacilli in media containing the extract and FOS were 7.33 ± 0.05/4.95 ± 0.20 and 6.44 ± 0.22/6.05 ± 0.06, respectively. Clostridia, anaerobes and Enterobacteriaceae grew to a similar extent in media containing murta extract and FOS. In vitro tests (disk diffusion) showed that Gram-positive (Bacillus and Paenibacillaceae) and Gram-negative (Enterobacteriaceae) bacteria isolated from fecal samples were sensitive to both water and 50/50 ethanol/water extracts of ML (28.4 μg gallic acid equivalents). At this concentration, the antimicrobial activity of ML extracts was significantly (P <0.05) lower than that of penicillin (10 U), whereas the difference between activity of ML extracts and gentamicin (10 μg) was not significant (P > 0.05). No evidence of dependency between the antimicrobial activity of ML extracts and the enzymatic capability of the sensitive strains was found. © 2012 Institute of Food Technologists®.

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