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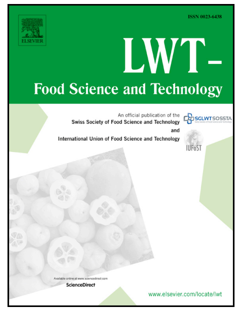

Validation of nutraceutical properties of honey and probiotic potential of its innate microflora

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Validation of nutraceutical properties of honey and probiotic potential of its innate microflora

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ABSTRACT

Honey extracted from the beehives was found to be acidic (pH 4.7) with moderate moisture (17.27%), low hydroxymethylfurfural (HMF) level (4.62 mg/kg) and ash content (0.46%). A linear positive relationship was observed between the honey concentration and DPPH (2, 2 diphenyl -1-picylhydrazyl) radical scavenging activity. Energy dispersive x-ray spectrum (EDAX) analysis of the honey revealed the presence of essential elements like K, Ca, Mn and Fe. The high R^2 values obtained with dose response plot inferred the inhibitory efficiency of honey towards different bacterial pathogens. *Gluconobacter oxydans* isolated from honey was found to possess probiotic properties with siderophorogenic potential. Siderophore produced by *G. oxydans* was found to be of trihydroxamate nature and formed hexadentate ligands with Fe^{3+} ions. Fourier-transform infrared (FTIR) spectra revealed the trihydroxamate nature of the