Antioxidant, antimicrobial and anti-inflammatory potential of Stevia rebaudiana leaves: effect of different drying methods

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 To evaluate the effect of drying methods on Stevia rebaudiana Bertoni quality, the content of bioactive compounds, antioxidant capacity, antimicrobial and anti-inflammatory activity of Stevia leaves dehydrated by seven different methods was compared. Polyphenols and antioxidant capacity increased in all dried samples where Freeze (FD) and shade drying (SH) resulted in the highest and infrared drying (IR) in the lowest values. All Stevia leaf extracts presented antimicrobial activity towards Listeria innocua although IR and convective drying (CD) inhibition was longer (48 h). Except from IR, all extracts reduced inflammation in AA treated mice, where vacuum dried (VD) and microwave dried (MW) were the strongest. MW, sun dried (SD) and SH stevia were the most effective against phorbol 12-myristate 13-acetate (TPA)-induced inflammation. This work provides evidence on how drying processes affect the content and activity of Stevia bioactive compounds. Selection of a spe