Evaluation of antioxidant potential of aloe vera (Aloe barbadensis miller) extracts.

Hu Y, Xu J, Hu Q.

Source

College of Food Science and Technology, Nanjing Agricultural University, Nanjing 210095, PRC.

Abstract

The polysaccharide and flavonoid concentrations of two-, three-, and four-year-old Aloe vera were determined, and their antioxidant activities were evaluated compared to BHT and alpha-tocopherol by the DPPH radical scavenging method and the linoleic acid system at 100 microg of soluble solids per mL of ethanol.

The results showed that three-year-old Aloe vera contained significantly higher levels of polysaccharides and flavonoids than two- and four-year-old Aloe vera, and no significant differences in flavonoid levels were found between three- and four-year-old Aloe vera.

All the aloe extracts showed significant antioxidant activity. The antioxidant activity of Aloe vera extracts and reference compounds followed the order: three-year-old Aloe vera > BHT > four-year-old Aloe vera > alpha-tocopherol > two-year-old Aloe vera.

The three-year-old extract exhibited the strongest radical scavenging activity of 72.19%, which is significantly higher than that of BHT at 70.52% and alpha-tocopherol at 65.20%.

These data suggest that the growth stage plays a vital role in the composition and antioxidant activity of Aloe vera.

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