

Abstract

Antimicrobial Activity of *Vaccinium* spp. (Blueberry) Leaf Extracts Against *Candida albicans*, *Pseudomonas aeruginosa*, and *Staphylococcus aureus*[†]

Nathália Lorena Rocha Freire *, Nicole C. B. Rêgo, Priscila B. F. Arquelau, Rebeca Dia dos Santos , Carla A. Bilac , Daniel O. Freire , Izabel C. R. Silva , Daniela C. Orsi  and Eliana F. Gris 

Health Innovation and Technology Laboratory, University of Brasília, School of Health Sciences and Technologies, UNB/FCTS, Brasília 72220-900, Brazil; nicolerego19@gmail.com (N.C.B.R.); parquelau@gmail.com (P.B.F.A.); rebecadias123@gmail.com (R.D.d.S.); carlabilac@gmail.com (C.A.B.); daniel.microbiologia@gmail.com (D.O.F.); belbiomedica@gmail.com (I.C.R.S.); danielacastilhoorsi@gmail.com (D.C.O.); elianagris@gmail.com (E.F.G.)

* Correspondence: nathalia-lorena@hotmail.com

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Introduction: The rise in antimicrobial resistance represents a global public health challenge, reinforcing the search for naturally occurring bioactive compounds with antimicrobial potential. Leaves of *Vaccinium* spp. (blueberry) have a high content of polyphenols and flavonoids, compounds associated with antimicrobial properties. **Methodology:** Ethanolic (96%) and aqueous extracts of *Vaccinium* spp. leaves were prepared using 5 g of plant material for 50 mL of solvent by maceration for seven days. Antimicrobial activity was assessed by a modified disk diffusion method using Mueller–Hinton agar. The tested strains were *Candida albicans* ATCC 10231, *Pseudomonas aeruginosa* ATCC 9027, and *Staphylococcus aureus* ATCC 25923. Suspensions were standardized to 0.5 McFarland and inoculated in triplicate. Subsequently, 100 µL of the extracts was applied to wells made in the culture medium. After incubation at 37 °C for 24 h, inhibition zones were measured in millimeters. **Results:** The ethanol extract showed inhibition zones of 31–34 mm for *C. albicans*, 32–35 mm for *P. aeruginosa*, and 27–29 mm for *S. aureus*. The aqueous extract demonstrated activity against *S. aureus*, with zones of 27–29 mm, similar to that observed with the ethanol extract. **Conclusions:** The results indicate that *Vaccinium* spp. leaves contain bioactive compounds with significant antimicrobial potential against Gram-positive and Gram-negative bacteria and fungi. These findings reinforce the importance of investigating plant extracts as complementary alternatives in combating microbial resistance.



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