

Title: EVALUATION OF EXTRACTS DERIVED FROM *BACCHARIS TRIMERA* AGAINST CANINE DISTEMPER VIRUS

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Abstract:

Canine distemper is a viral disease, worldwide distribution, highly contagious, with endemic pattern, high incidence and mortality rates. It is a multisystem disease caused by *canine distemper virus* and does not have a specific treatment, leading to a great interest in discovering new effective and safe drugs for the treatment. Canine infection results in gastrointestinal clinical signs and/or respiratory signs often accompanied by neurological symptoms. Currently, the use of natural products for medicinal purposes has been growing and several plant extracts have shown antiviral, anti-inflammatory and bactericidal activities. The aim of this study was to evaluate the antiviral potential of two plant extracts (hexane and ethanolic) of *Baccharis trimera* against *canine distemper virus in vitro*. The maximum non-toxic concentration (CMNT) of the compounds in VERO cells was assessed by a colorimetric method based on salt reduction MMT. Then, the compounds were tested by Direct Inactivation Assay to verify virucidal activity and by Time of Addition Assay of the compounds for evaluating virus inhibition at different stages of the replicative cycle. Two concentrations equal or lower to the CMNTs values were used in the antiviral assays. The CMNTs obtained were 30ug/mL to hexane extract, 45ug/mL to ethanolic extract and 0,8% to DMSO (extracts diluent). DMSO did not show antiviral activity and toxicity in none of the tests. The evaluation by Direct Inactivation Assay demonstrated that this extracts have significant virucidal activity. The Time of Addition Assay demonstrated that the substances interfere in the adsorption and viral internalization. The results of this work suggest the importance of these compounds for veterinary medicine, especially against *canine distemper virus*, because they have shown potential for developing new antiviral therapeutic techniques.

Keywords: *Canine distemper virus*, *Baccharis trimera*, antiviral.

Financial support: FAPEMIG, CNPq and CAPES.