

Poster abstract (NAT)

Chemotypes of *Eugenia uniflora* and antinociceptive activity

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Eugenia uniflora L. (Myrtaceae) is a plant native to Brazil known as Pitanga (Brazilian cherry tree). It's used in folk medicine as antirheumatic, antidysenteric and antipyretic. In this work, we evaluated the chemotypes of *E. uniflora* collected in Grumari (Rio de Janeiro-RJ, Brazil) by GC-MS analysis of the essential oil obtained from its leaves, and statistics. The genetic variability of these plants has already been studied by Margis *et al.* [1]. The PCA analysis of the data obtained by GC-MS split the chemotypes in four different groups (A–D). A representative sample from each group was submitted to NMR analysis and to antinociceptive activity assay in albino Swiss mice, as described by Amorim *et al.* [2]. The group A (9 samples) showed a major peak with LRI at 1516. After mass fragmentation and NMR analyses, this peak was identified as a mixture of the isomers atractylone and 3-furanoeudesmene. The group B (8 samples) showed a major peak with LRI at 1774. NMR analyses suggested a sesquiterpene structure, 6 β -acetoxy-5 α -H-guaian-1(10),3-diene. The 4 samples of the group C showed 2 major peaks with LRI 1674 and 1787, identified by GC-MS and NMR as selina-1,3,7(11)-trien-8-one and selina-1,3,7(11)-trien-8-one oxide, respectively. The group D (9 samples) also showed two major peaks. The first with LRI at 1516 (equal to group A, also confirmed by co-injection analysis) and the second peak with LRI 1870. GC-MS and NMR analyses of the second peak result in the compound identified as epicurzerenone. In the antinociceptive assay, analysis of Variance (ANOVA One-way) together with the Dunnett's test showed that all treatments of the essential oil of *E. uniflora* at 200 mg/kg were efficient in reducing the number of acetic acid-induced abdominal constrictions when compared to the control group (Tween 20/EtOH/H₂O 1:1:10, * $p < 0,05$). The Brazilian National Health Vigilance Agency (ANVISA) regulated the use of *E. uniflora* leaf for teas due to its popular use. According to the RDC n^o 73 (April, 2004), the essential oils of *E. uniflora* have curzerenes (furanosquiterpenes) as major constituents, with LRI ranged from 1486 to 1489, and are regulated by their presence. However, data described in literature [3] and this present work showed the existence of different chemotypes for this specie, with other constituents than curzerenes as major constituents, not related in the RDC regulator.

References

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