



## ***Baccharis dracunculifolia* DC HYDROALCOHOLIC EXTRACT IMPROVES INTESTINAL AND HIPPOCAMPAL INFLAMMATION IN COLITIS MICE**

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### **INTRODUCTION**

The effects of the hydroalcoholic extract of *B. dracunculifolia* (HEBD) and its major compound *p*-coumaric acid were evaluated against the severity of intestinal inflammation and behavioural changes like depressive and anxious behaviour in colitis mice.

### **MATERIAL AND METHODS**

Colitis was induced in Swiss mice by oral dextran sulfate sodium (DSS) administration during five days. The mice received vehicle (10 ml/kg), HEBD (3, 30 or 300 mg/kg), SisGen registered in A0BD757, or *p*-coumaric acid (15 mg/kg) daily, orally by 12th days. On the 11th and 12th days after the beginning of the treatments, behavioural tests were performed. Moreover, the colon, cortex and hippocampus were collected for analysis of oxidative and inflammatory parameters. All experiments were carried out in accordance with the International Standards and Ethical Guidelines on Animal Welfare and the ARRIVE guidelines and were previously approved by the Ethics Committee on the Use of Animals of the University of Vale do Itajaí (038/18p and 024/20p).

### **RESULTS**

The treatment with HEBD (300 mg/Kg), but not *p*-coumaric acid, showed a decrease in disease activity index (DAI) values compared to the vehicle group and partially preserved the villi architecture and mucin levels. Furthermore, the HEBD increased the antioxidant defences in colon and hippocampus and reduced the myeloperoxidase activity and IL-6 levels in the colon from colitis mice. Colitis mice treated with HEBD did not show depressive-like behaviour in the tail suspension test.

### **CONCLUSIONS**

HEBD reduces colon inflammation, in addition to maintaining antioxidant defences and mucins in this tissue and can reduce neuropsychiatric comorbidities associated with colitis through its antioxidant effects.

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