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PHYTOCHEMICAL ANALYSIS AND ANTIULCER ACTIVITY OF *CREPIS SANCTA* AERIAL PARTS GROWING IN JORDAN

BY

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COMMITTEE DECISION

This Thesis/Dissertation entitled (PHYTOCHEMICAL ANALYSIS AND ANTIULCER ACTIVTIY OF *CREPIS SANCTA* AERIAL PARTS GROWING IN JORDAN) was Successfully Defended and Approved on January 10th, 2019

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DEDICATION

This thesis is dedicated to my beloved family, my mother, father and father-in-law who have never failed to give reasons to be proud being their daughter. Surely, to my husband for his constant unconditional support. To my children, Maria and Sharaf, whom I owe every bit of success, I have ever achieved.

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Phytochemical analysis and antiulcer activity of *Crepis sancta* aerial parts growing in Jordan

ABSTRACT

Background: The genus of *Crepis* (Asteraceae) is well documented for its flavonoid and phenolic content, phenolic compounds are well studied to have anti-inflammatory, antioxidant and antimicrobial activities. Bioactivity-guided investigation of the acetone-methanol fraction of *Crepis sancta* aerial parts collected off Basira region, Al-Tafilah, South Jordan and in this study was evaluated for its phytochemical components and its anti-ulcer activity. **Material and Method:** Phytochemical investigation was done using TLC, VLC, Column chromatography, Preparative HPLC, Analytical HPLC, ESI-MS, LC-MS, HR-MS and NMR. The total acetone methanol fraction was assessed in *vivo* at three different doses (150, 300 and 600 mg/kg) for its antiulcer activity against ethanol-induced gastric ulcer in three groups of albino rats compared to omeprazole at a dose of 20 mg/kg as a standard proton pump inhibitor antiulcer drug.

Results: Two eudesmane-type sesquiterpenoids identified as 3-oxo-*γ*-costic acid (**1**) and its methyl ester (**2**) in addition to six different methoxylated flavonols (**3**-**8**) were identified as the extract's major components. The in *vivo* study revealed that the tested extract, at the middle and the highest doses, featured comparable or even superior activities as deduced from histopathological examination to those effects exhibited by omeprazole in particular for reducing inflammatory cell infiltration and ceasing the mucosal haemorrhage.

Conclusion: The tested extract revealed a dose-dependent reduction in the volume and titrable acidity of the gastric juice together with a dose-dependent increase in the protective gastric mucin content which may explain the noticeable gastroprotective effect.