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

BY

Nariman Atallah Al-Jawabri

Supervisor
Prof. Dr. Ahmad M. Disi

Co-Supervisor
Dr. Sherif S. Ebada

This Thesis was Submitted in Partial Fulfillment of the Requirements for the Master’s Degree of Pharmaceutical Sciences.

Faculty of Pharmacy

Isra University

January 10th, 2019
COMMITTEE DECISION

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

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<tr>
<th>Examination Committee</th>
<th>Signature</th>
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<tbody>
<tr>
<td>Prof. Dr. Ahmad M. Disi (Supervisor)</td>
<td></td>
</tr>
<tr>
<td>Prof. of Comparative and Human Anatomy Science, Faculty of Pharmacy, Isra University</td>
<td></td>
</tr>
<tr>
<td>Dr. Sherif S. Ebada (Co-Supervisor)</td>
<td></td>
</tr>
<tr>
<td>Assoc. Prof. of Pharmacognosy, Faculty of Pharmacy, Mu’tah University</td>
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<tr>
<td>Dr. Sa’ed M. Dalaen (Member)</td>
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<tr>
<td>Dean and Assoc. Prof. of Pharmacology, Faculty of Pharmacy, Mu’tah University</td>
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<tr>
<td>Dr. Zead H. Abudayeh (Member)</td>
<td></td>
</tr>
<tr>
<td>Assis. Prof. of Pharmaceutical Sciences and Pharmacognosy, Faculty of Pharmacy, Isra University</td>
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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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To All of You, Thank You Very Much!
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-cotic 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.