



## Phytochemical investigation, in vitro assessment of anti-inflammatory and hemostatic activities of *Hyacinthoides lingulata* (Poir.) Rothm extract

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### Introduction & Objectives:

Medicinal plants are well known as an important potential source of therapeutic or curative aids, which are involved in treating human diseases. Nowadays, several studies were focused on the isolation, structure identification and biological behaviors of the phytochemicals that are present in this valuable source. In that perspective, the current research work aims at casting light on the chemical composition, anti-inflammatory and hemostatic activities of the Algerian endemic plant *Hyacinthoides lingulata* (Poir.) Rothm (Asparagaceae) HL.

### Methodology (Material and methods):

The structures of the flavones were elucidated by analyzing ESI-MS (negative and positive ionization modes) and UV spectra. The *in vitro* anti-inflammatory effect of HL was carried out by human red blood cell membrane stabilization method which includes heat and hypotonicity induced hemolysis. The hemostatic activity was evaluated by measuring the coagulation time of decalcified plasma after recalcification.

### Results and Discussion:

The use of LC-ESI-MS technique in the purpose of investigating phytochemically the *n*-butanol extract, allowed us to identify the chemical structure of 10 glycosylated derivatives of apigenin and luteolin flavones. The *in vitro* examination of protecting membrane stability of erythrocyte resulted in showing high inflammatory inhibition in both heat ( $84.70 \pm 0.24\%$ ) and hypotonic induced hemolysis ( $79.45 \pm 0.12\%$ ). Furthermore, the same plant extract showed also a remarkable hemostatic effect established by measuring the coagulation time ( $15.95 \pm 1.05$  s at a dose of 1mg/mL) of decalcified plasma. These results can be clarified by the richness of the *n*-butanol extract with flavonoid compounds<sup>[2-4]</sup>.

### Conclusion:

In the final analysis, the bioactive compounds identification and anti-inflammatory, hemostatic activities in this study may support the use of HL as a source of pharmacological agents.

**Keywords:** Anti-inflammatory, hemostatic, glycosylated flavones, *Hyacinthoides lingulata*.

### References

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