

## IN VITRO, ANTIOXIDANT AND ANTIDIABETIC ACTIVITIES, PHENOLIC AND FLAVONOID CONTENTS OF AN ALGERIAN SAHARAN PLANT OF THE ASTERACEAE FAMILY

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Code CC07

### Introduction & Objectives:

Many species of the family Asteraceae are known to be used for various medicinal purposes, as they have been used to treat anemia, heal wounds and treat liver diseases [1- 4], It is also used in nutrition and decoration. In the present work, a plant of this family was selected to evaluate its quantitative analysis and to evaluate its potential antioxidant and antidiabetic properties *in vitro*.

### Methodology (Material and methods):

The plant material was extracted using different solvents to obtain the three required extracts. The total phenolic content and total flavonoid content of the extracts were determined as gallic acid equivalents and quercetin equivalents, respectively. The antioxidant capabilities of the extracts were assessed using 1, 1-diphenyl-2-picrylhydrazyl radical (DPPH•) scavenging and Cupric Ion Reducing Antioxidant Capacity (CUPRAC) assays. The antidiabetic activity of the three extracts was evaluated by using alpha-amylase inhibition assay.

### Results and Discussion:

The results showed that the butanol extract exhibited the best antioxidant activity in the two tests (IC<sub>50</sub> value 15.22 ± 0.30 µg/mL in DPPH assay, A<sub>0.50</sub> value 14.88 ± 0.46µg/mL CUPRAC) and showed the highest amount of total phenolic content (TPC) and flavonoid content (TFC). The results of antidiabetic test showed that the chloroform extract exerted a significant inhibitory activity on alpha-amylase with an IC<sub>50</sub> value = 34.42 ± 3.22 µg/ml, followed by ethyl acetate extract with moderate inhibitory activity with the same enzyme.

### Conclusion:

In this study, the antioxidant and antidiabetic activities of the aerial parts from an Algerian Saharan plant were studied. The results showed that the butanol extract of this plant possesses high antioxidant activity. This is due to its richness in phenolic content, while chloroform extract showed a good α-amylase inhibitory activity.

**Keywords:** Saharan plant, Phenolic content, Antioxidant, Antidiabetic.

### References

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