

CELERY (*APIUM GRAVEOLENS*) SEED EXTRACTS: A NATURAL AND EFFECTIVE STRATEGY AGAINST *HELICOBACTER PYLORI* INFECTION

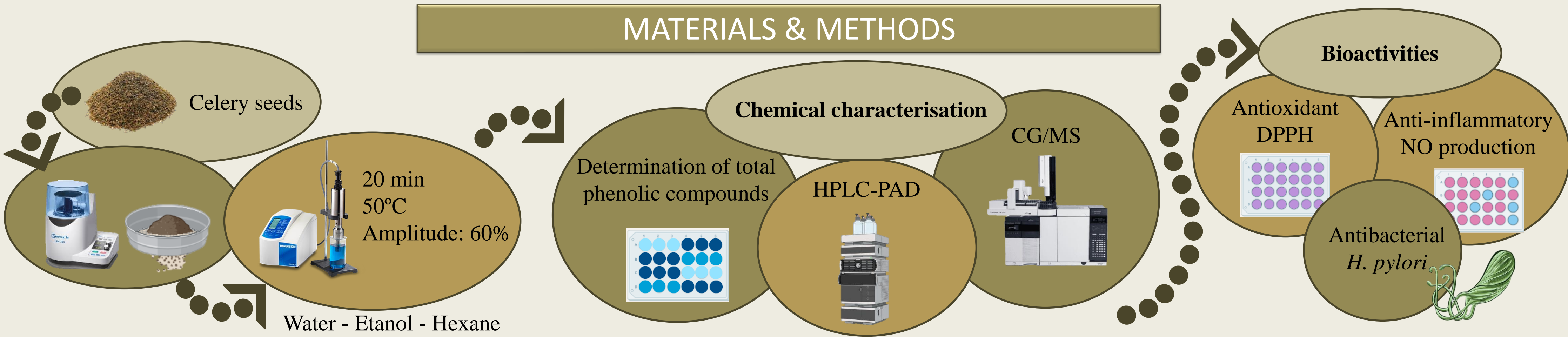
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INTRODUCTION & AIM

Helicobacter pylori (*H. pylori*) infects 50-70% of the global population, colonizing the gastric epithelium and causing conditions ranging from gastritis to gastric cancer. Its widespread impact has driven research into alternative therapeutic approaches. Bioactive compounds from natural sources are of particular interest due to their promising properties. This study focuses on celery seed extracts (*Apium graveolens*) and evaluates their antibacterial, antioxidant, and anti-inflammatory effects. The findings aim to highlight their potential as therapeutic agents against *H. pylori*. This approach contributes to the ongoing search for natural, effective treatments.

MATERIALS & METHODS



RESULTS

Total phenolic compound content

	mg GAE / g extract
Water	28.5 ± 3.0 ^{b*}
Ethanol	42.8 ± 0.9 ^a
Hexane	10.4 ± 0.3 ^c

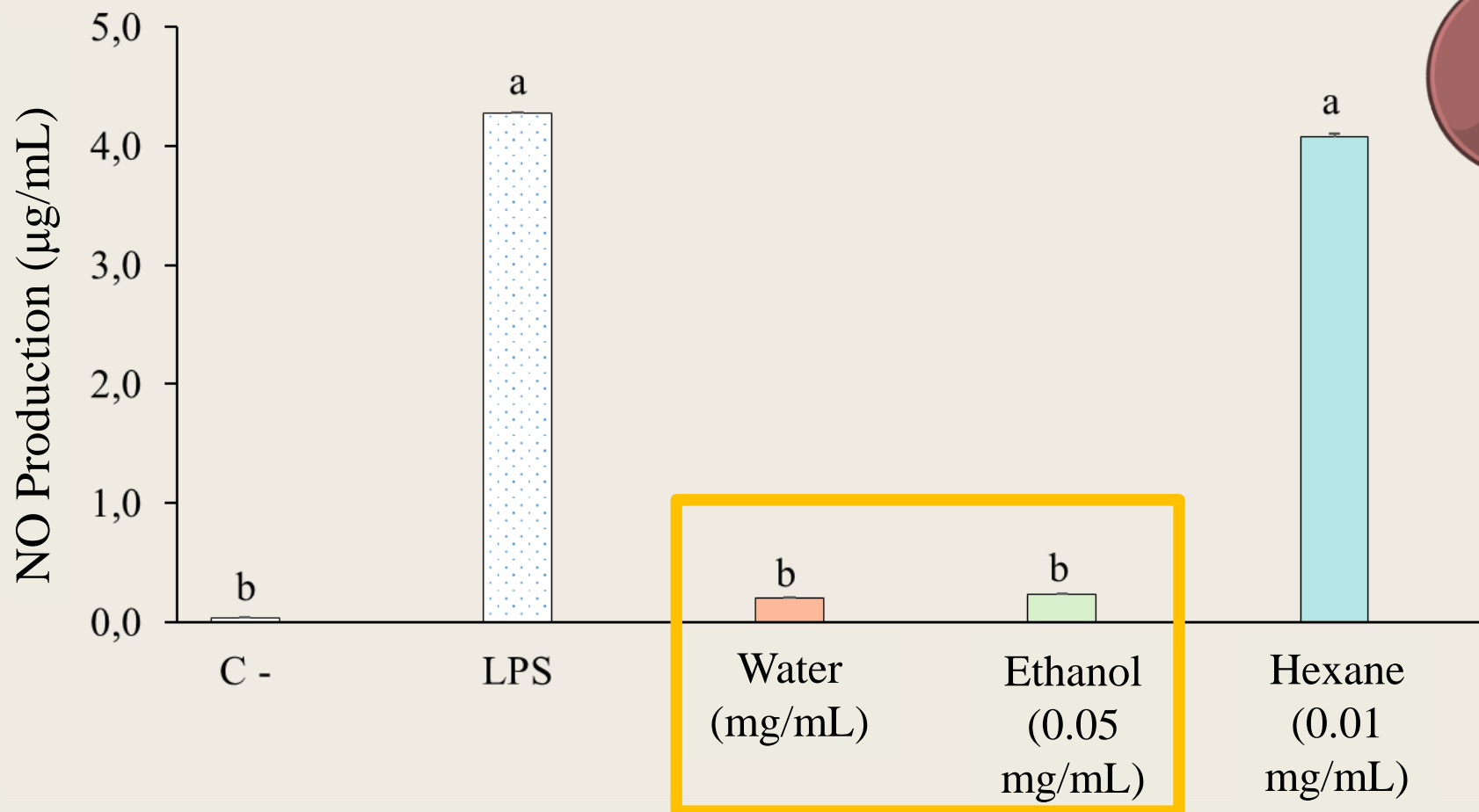
Compounds identified by HPLC

Phenolic compound	Water	Ethanol
Phenolic acids	2.5 ± 0.2 ^a	0.8 ± 0.1 ^b
Luteolin family	12.4 ± 0.3 ^b	34.4 ± 0.2 ^a
Apigenins family	0.9 ± 0.1 ^b	4.1 ± 0.2 ^a

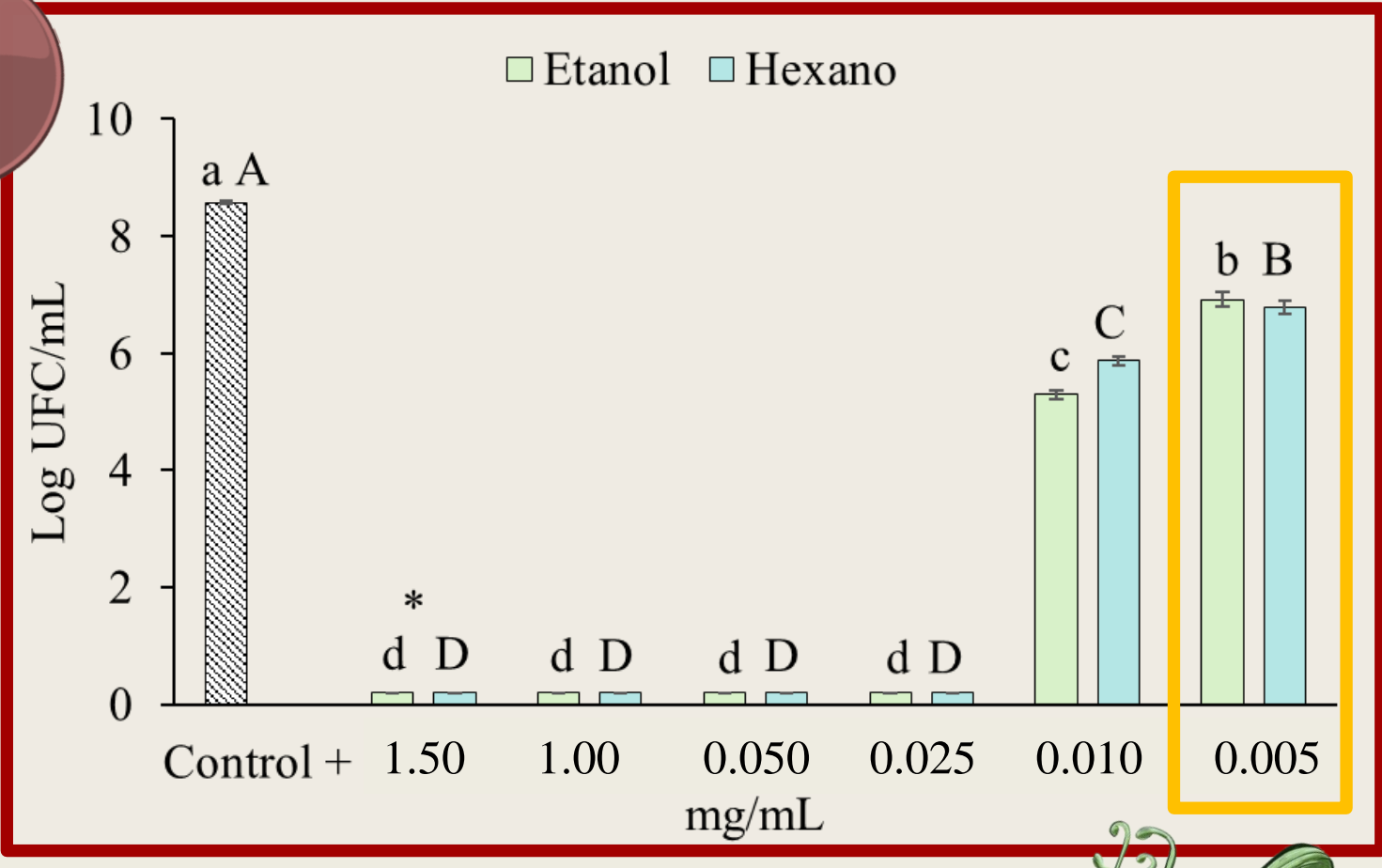
Volatile compounds identified by GC/MS

	Ethanol	Hexane
Compound	% area	% area
β-selinene	11.2 ± 1.3 ^a	12.7 ± 0.1 ^a
Butylfitalide	24.0 ± 0.3 ^a	23.8 ± 0.5 ^a
Sedanenolide	42.7 ± 0.0 ^b	46.7 ± 0.1 ^a
Sedanolid	2.8 ± 0.0 ^a	1.8 ± 0.1 ^b

Anti-inflammatory activity



Antibacterial activity



CONCLUSIONS

The ethanolic extract of celery exhibited the highest phenolic compound content, whereas the ethanolic and hexane extracts displayed similar levels of volatile compounds. The aqueous and ethanolic extracts, characterised by their richness in phenolic compounds, demonstrated greater antioxidant and anti-inflammatory activities compared to the hexane extract. Furthermore, the ethanolic and hexane extracts exhibited significant antibacterial activity against *H. pylori*, potentially attributable to their high volatile compound content.