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Nature-Inspired Antibacterial Agents: Derivatization of Eugenol toward promising anti-*H. pylori* agents

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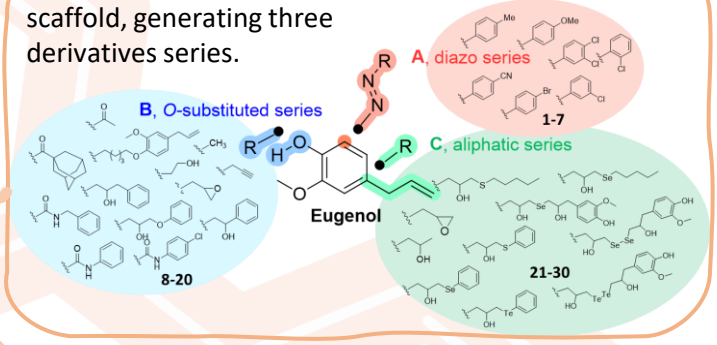
As a big concern for Public Health, **Antimicrobial resistance** reduces current antibiotics effectiveness. *Helicobacter pylori* is recognized as an important risk factor for the development of gastric adenocarcinoma; it can survive in harsh conditions, thereby causing infection recrudescence and failure in eradication treatment.

The search for new antibacterial agents led us to explore the activity of **Eugenol**, an essential oil component known for its polypharmacology and, in particular, broad-spectrum antimicrobial and anti-*H. pylori* activity *in vitro*.

We performed chemical modifications on **Eugenol** scaffold, generating three derivatives series.



The antibacterial susceptibility of *H. pylori* strains for Eugenol derivatives **1-30** was evaluated on the reference NCTC 11637 strain and three drug-resistant clinical isolates. Interestingly, some of the derivatives showed lower minimal inhibitory concentration (MIC) values on *H. pylori* NCTC 11637 (MICs ranging from 8 to 16 µg/mL) than the parent compound (Eugenol, MIC = 32 µg/mL). They also maintained their antibacterial activity on the resistant strains, exerting a bactericidal effect.

Read our paper: https://doi.org/10.3390/ph16091317