

# Inhibitory effect of 3',4',5'-trimethoxychalcone analogues on the *Helicobacter pylori*-associated gastric inflammation

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## Abstract

*Helicobacter pylori* infection plays a crucial role in the pathogenesis of peptic ulcer, and some type of gastric cancer. This study is aimed at evaluating the antimicrobial activity of twenty three 3',4',5'-trimethoxychalcone analogues. Among the compounds, **1**, **7** and **13** displayed potential bactericide activity against the reference as well as multidrug-resistant strains of *H. pylori*. Additionally, the aforementioned three compounds exhibited a dose response inhibition of *H. pylori* adhesion and invasion to human gastric epithelial (AGS) cells. Furthermore, these selective compounds **1**, **7** and **13** inhibited the *H. pylori*-induced gastric inflammation by reduced inflammatory mediator's nuclear factor (NF)- $\kappa$ B activation, and the secretion of interleukin (IL)-8.

Keywords: 3',4',5'-trimethoxychalcone analogues; *Helicobacter pylori* infection; Human gastric epithelial cells; NF- $\kappa$ B; IL-8