

A new pyrimidine Schiff base with selective activities against *Enterococcus faecalis* and gastric adenocarcinoma.

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Streszczenie

Enterococcus faecalis is known as a significant nosocomial pathogen due to its natural resistance to many antibacterial drugs. Moreover, it was found that *E. faecalis* infection causes inflammation, production of reactive oxygen species, and DNA damage to human gastric cancer cells, which can induce cancer. In this study, we synthesized and tested the biological activity of a new Schiff base, 5-[(4-ethoxyphenyl)imino]methyl-N-(4-fluorophenyl)-6-methyl-2-phenylpyrimidin-4-amine (**3**), and compared its properties with an analogous amine (**2**). In the biological investigation, **3** was found to have antibacterial activity against *E. faecalis* 29212 and far better anticancer properties, especially against gastric adenocarcinoma (human Caucasian gastric adenocarcinoma), than **2**. In addition, both derivatives were non-toxic to normal cells. It is worth mentioning that **3** could potentially inhibit cancer cell growth by inducing cell apoptosis. The results suggest that the presence of the $-C=N-$ bond in the molecule of **3** increases its activity, indicating that 5-iminomethylpyrimidine could be a potent core for further drug discovery research.

Słowa kluczowe

antibacterial activity, anticancer activity, apoptosis, pyrimidines, Schiff bases

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