# Uji aktivitas antibiotik senyawa asam galat dan oktil galat sebagai penghambat pertumbuhan bakteri salmonella typhi dan streptococcus pneumoniae = Antibiotic activity tests for gallic acid and octyl gallate compounds as inhibitors of salmonella typhi and streptococcus pneumoniae growth

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Abstrak

Asam galat dan oktil galat adalah senyawa yang telah banyak digunakan di berbagai industri. Asam galat dikenal memiliki manfaat terapeutik potensial sebagai antibakteri, antivirus, antijamur, anti-inflamasi, dan anti kanker. Mirip dengan salah satu turunannya, octyl gallate. Turunan asam galat ini yang memiliki 8 rantai karbon alkil, berfungsi sebagai antibakteri, antifugal, dan antioksidan kuat. Tingginya kasus resistensi Salmonella thypi dan Streptococcus pneumoniae memberi peluang untuk asam galat dan oktil galat sebagai alternatif antibiotik baru. Pengujian dilakukan dengan metode difusi cakram diikuti dengan mengukur zona hambat yang terbentuk. Salmonella thypi dan Streptococcus pneumoniae diuji dengan asam galat dan oktil gallate dengan konsentrasi 16 mg / L, 32 mg / L, 64 mg / L, 128 mg / L, 128 mg / L, 256 mg / L, 512 mg / L, dan 1024 mg / L. Setiap tes diulang tiga kali (triplo). Dalam tes ini, gentamisin disc 10 g digunakan sebagai kontrol positif. Hasil penelitian ini dinyatakan dalam satuan mm berdasarkan zona penghambatan setiap senyawa. Dari hasil pengujian menggunakan 7 konsentrasi yang berbeda, asam galat dan oktil galat belum mampu menghambat aktivitas Salmonella thypi dan Streptococcus pneumoniae, karena zona hambat yang diamati adalah 0 mm hingga konsentrasi 1024 mg / L.

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Gallic acid and octyl gallate are compounds that have been widely used in various industries. Gallic acid is known to have potential therapeutic benefits as antibacterial, antiviral, antifungal, anti-inflammatory, and anti-cancer. Similar to one of its derivatives, octyl gallate. This gallic acid derivative which has 8 alkyl carbon chains, functions as an antibacterial, antifugal, and strong antioxidant. High cases of resistance of Salmonella thypi and Streptococcus pneumoniae provide opportunities for gallic acid and octyl gallate as alternatives to new antibiotics. Tests carried out by the method of disk diffusion followed by measuring the zone of inhibition formed. Salmonella thypi and Streptococcus pneumoniae were tested with gallic acid and octyl gallate at concentrations of 16 mg / L, 32 mg / L, 64 mg / L, 128 mg / L, 128 mg / L, 256 mg / L, 256 mg / L, 512 mg / L, and 1024 mg / L. Each test was repeated three times (triplo). In this test, a 10 g gentamicin disc was used as a positive control. The results of this study are expressed in units of mm based on the zone of inhibition of each compound. From the test results using 7 different concentrations, gallic acid and octyl gallate have not been able to inhibit the activity of Salmonella thypi and Streptococcus pneumoniae, because the inhibited zone observed was 0 mm to a concentration of 1024 mg / L.