

The result of modified hydrothermal nanotitania extract to the Escherichia coli growth

ABSTRACT

Background: This research was planned to search for a potential of modified hydrothermal nanotitania extract in inhibiting the growth of bacteria commonly known in medical field. It is also aims to test this substance against common medical bacteria, Escherichia coli. Materials and methods: In this test, suspension of modified hydrothermal nanotitania extract (together with 0.01%, 0.03% and 0.05% silver) and undoping (positive control contains TiO₂ and no silver) were prepared by mixing of TiO₂ in Mueller Hinton Broth (MH) agar. The plate containing the bacteria and TiO₂ were observed after 24 hour, 48 hours and 72 hours incubation at 37°C for any growth of bacteria. Results: There was no growth of Escherichia coli in the plates containing the bacteria and modified hydrothermal nanotitania extract except in the control media. Conclusions: The finding suggested the modified hydrothermal nanotitania extraction interfered the growth of Escherichia coli.