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## Ricinoleic acid and ethanol is an effective antibacterial agent

Pathogenic bacteria are exposed to disinfectants, which can lead to the development of resistance. As a result of increasing microbial resistance to disinfectants, scientists are searching for alternatives. An option for a new antimicrobial compound is one of the main components of castor oil. Castor oil is extracted from the castor plant (*Ricinus communis*). *R. communis* oil has a well reported anti-HIV, anticancer, laxative, anti-inflammatory, antioxidant and hepato-protective activity. The main component of castor oil is ricinoleic acid. Our interest was in testing the antibacterial effects of ethanol alone as compared to ethanol and ricinoleic acid. The antibacterial properties of ricinoleic acid were analyzed by growing bacterial species in media containing ricinoleic acid and increasing concentrations of ethanol. For *Staphylococcus epidermidis*, *Escherichia coli* and *Pseudomonas aeruginosa* the minimal inhibitory concentration of ethanol with and without ricinoleic acid was

determined. Growth was measured after 24 hours by visual analysis cultures and spectrophotometer readings

Our findings support ricinoleic acid's potential as an antimicrobial, showing an increase in effectiveness when used with ethanol versus only ethanol.

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