

In Vitro Antibacterial Activity of *Argemone mexicana* L. (Papaveraceae)

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ABSTRACT

The aim of this study was to examine the efficacy of various extracts from stems of *Argemone mexicana* L. as antibacterial potential against a range of food-borne bacteria. The antibacterial activity of various extracts (hexane, chloroform, ethyl acetate and ethanol) of *A. mexicana* L. stems was determined in vitro, using agar diffusion method and MIC determination test against ten (five Gram positive and five Gram negative) food-borne pathogenic bacteria such as *Staphylococcus aureus*, *Bacillus subtilis*, *Listeria monocytogenes*, *Clostridium botulinum*, *Clostridium perfringens*, *Escherichia coli* 0157, *Pseudomonas aeruginosa*, *Salmonella typhimurium*, *Campylobacter jejuni* and *Vibrio cholerae*. The organic extracts exhibited potent antibacterial effect against *B. subtilis*, *S. aureus*, *L. monocytogenes*, *C. Botulinum*, *C. perfringens*, *E. coli*, *P. aeruginosa* and *S. typhimurium* at the concentration of 10 μ l (corresponding to 300 μ g/disc) of extracts. The zones of inhibition against the tested bacteria were found in the range of 10.1 to 21.4 mm, along with their respective MIC values ranging from 62.5-500 μ g/ml. This study suggests that natural products derived from *A. mexicana* L. may contribute to the development of new antimicrobial agents.

Key words: *Argemone mexicana* L., Organic extracts, Food-borne pathogens, Antibacterial activity, MIC

INTRODUCTION

Food-borne diseases caused by the consumption of contaminated foods have a wide economic and public health impact worldwide (Mead et al., 1999). Many pathogenic microorganisms such as *Listeria monocytogenes*, *Staphy-*