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Screening of extracts of algae from Baja California Sur, Mexico as reversers of the antibiotic resistance of some pathogenic bacteria

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Sixty ethanol extracts of marine flora of Baja California Sur (Mexico) were screened to evaluate the reversing effect of the bacterial resistance to antibiotics in combination with a sublethal concentration of ampicillin or erythromycin. The activity was assayed by using a modification of the classical agar-diffusion method against 3 resistant, pathogenic bacteria; *Escherichia coli* (ATCC BAA196), *Staphylococcus aureus* (ATCC BAA42), and *Streptococcus pyogenes* (ATCC BAA946). From the 60 ethanolic extracts, 12 (20%) of them in combination with ampicillin were able to reverse the resistance of *Staphylococcus aureus* and 8 (13%) with erythromycin yielded the same reversal with *Streptococcus pyogenes*. An extract from *Sargassum sinicola* was the only one that reversed the resistance to antibiotics against both *Staphylococcus aureus* and *Streptococcus pyogenes*. Our finding suggests that some algae may be source of compounds with the potential to reverse the antibiotic resistance of some bacteria. In addition, of the assayed extracts, 35 (57%) showed inhibitory activity against *Staphylococcus aureus*, 48 (78%) were active against *Streptococcus pyogenes*, but none was active against *Escherichia coli*. The most active extracts were from *Laurencia* spp., *Gelidium robustus*, *Chnoospora implexa*, *Padina crispata*, *Gracilaria subsecundata*, and *Dictyopteris undulata*.

Palabras clave: *Escherichia coli*, *Streptococcus*, *Staphylococcus*, Antimicrobial

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