BIOACTIVE COMPOUNDS FROM THE MARINE DIATOMS OF AMPHORA COFFEAEFORMIS (AG) KUTZ AGAINST HUMAN PATHOGENS

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A study was initiated to explore bioactive potential of marine diatoms collected from Karaikal, Southeast coast of India. The antibacterial activity of the diatom, *Amphora coffeaeformis* was screened against human pathogenic bacteria such as Gram –positive *Staphylococcus aureus* and *Streptococcus feacalis* and Gram – negative *Escherichia coli* and *Pseudomonas aeruginosa.* The antibacterial activity of diatom was tested with various solvents including, methanol, ethanol, acetone and chloroform. Among the solvents used, methanolic extract was more active against all the bacteria tested. The activity of the extract in terms of zone of inhibition was more (16 mm) against *S. aureus* and less (10 mm) against *E.coli*. Gas chromatographic analysis of extract reveals the presence of bioactive compounds such as 5-methyl-1-heptanol, 3-buten-2-ol, pyridine, 2, 3, 4, 5-tetrahydro-4-heptanol, 1-undecane 9-methyl, tetradecane 1-ido and 1, 14-tetradecanediol. Evidence from the literature suggests that pyridine N-oxide derivatives represent a peculiar class of antiviral compound. The present study also reveals the presence of pyridine derivatives and hence, it is suggested that the extract of the diatom can be tried either in crude or purified form as a possible source of drug against HIV infection.

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