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# Isolation of Antimicrobial Compounds from Marine Sponge Neopetrosia exigua

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**Abstract :** This study was carried out to isolate the active antimicrobial compounds from Neopetrosia exigua using bio-guided assay isolation against Staphylococcus aureus. N. exigua was extracted using methanol and subjected to liquid-liquid extraction using solvents with different polarity (n-hexane, carbon tetrachloride, dichloromethane, n-butanol and water). Purification of the active components of n-butanol and dichloromethane fractions was done using Sephadex LH-20 and reverse phase chromatography. Based on the biological guided fractionation results, dichloromethane and n-butanol fractions showed the highest antimicrobial activity. Purification of the active components of n-butanol and dichloromethane fractions yielded three compounds. The structure of the isolated compounds were elucidated and found to be 5-hydroxy-1H-indole-3-carboxylic acid methyl ester, cyclo-1`-demethylcystalgerone and avarol derivative. Avarol was showed potent bactericidal effect against S. aureus. N. exigua appears to be rich source of natural antimicrobial agents. Further studies are needed to investigate the mode of action of these compounds.

**Keywords :** antimicrobial, avarol, Neopetrosia exigua, Staphylococcus aureus
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