

## 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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