Antibacterial Fractions from Marine Phytoplankton (Melosira sp., Navicula sp., Nitzschia sp.) Collected from Bali Strait

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Antibiotic resistances was one of the most health problem in South East Asia. Increasing the infectious disease will be increasing the antibiotic demand. Investigating the new source of antibiotic should be conducted especially from the new targeted resources such as marine phytoplankton. Studied from the local Bali's people that lived in Serangan bay, they used seawater extract containing phytoplankton to threat itchy skin. The data showed that this seawater extract containing Melosirasp, Nitzchiasp and navicula sp. The aim of this study was to investigate the antibacterial capacity of these marine phytoplankton and characterized the secondary metabolite contain in methanolic extracts. Several steps were done as follow : culturing Melosirasp, Nitzchiasp and navicula sp. in laboratory scale, extracting the supernatant and pellet using methanol. Antibacterial assay test showed that three extract active against Staphylococcus aureus and E. colli . The highest antibacterial extract presented by Nitzchiasp with the MIC against S. aureuswas 2.50 mg/mL. The diameter inhibition of pellet extract of Nitzchiasp against E colli was 21.80 mm and 13.85 mm against S aureus. The BSLT test showed that Naviculaspextract very potential for anticancer sources with the LC 50 value was 19.96 ppm. GC-MS analysis of active antibacterial fraction of Nitzchiasp contained cyclotetrasilloxaneoctamethyl, hexadecanoicacid,hexadecyl ester ,ß- sitossterol , ankilostin. Further separation was needed to know the undefined compounds in active fractions. Keyword: Melosira sp., Navicula sp., Nitzschia sp., Antibiotic

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