

Indonesian Marine Sponge & microorganisms as a natural factory of active pharmacologically compounds

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Abstract

As a tropical archipelago country, Indonesia is a heaven for the growth of marine life, especially for sponge & marine microorganisms. About 850 species of sponges are identified in the east part of Indonesia. As the most biota that producing active substances, many researchers in the world interested for exploring the potential of Indonesian marine sponges. More than 1000 of Indonesian sponge's specimens have been screened for antimicrobial, anticancer, antiviral, MDR etc. During 1995-2016 about 40 genus of Indonesian sponges were investigated. As the result of these works more than 430 compounds have been reported and 56.7% of them were confirmed the new compounds. The compounds derived from Indonesian sponge were high during 2004-2013, but declining after 2014. This phenomenon was caused by limitation of compounds that going for further preclinical and clinical trials. The complexity, unstable and unsophisticated natural resources made developing drug from sponges was going slowly. The new promising of potential drug resources were marine microorganisms. In our work more than 1000 strains of bacteria and actinobacteria were screened for anti-infective activity. More than 50% of them showed active against photogenic bacteria, mycobacteria & virus. Microorganisms drive for changing of focus investigation from higher biota to the micro biotic. Limited report of active compounds derived from Indonesian marine microorganisms became the homework for us to uncover it.

Biography

Tutik Murniasih currently works at the Research Center for Oceanography, Indonesian Institute of Sciences. Tutik does research in Medicinal Chemistry, Organic Chemistry and Phytochemistry. Their current project is 'anti-infective from marine life'.

Publications

1. Evaluation of nutritional value of sea cucumber *Holothuria scabra* cultured in Bali, Indonesia
2. Optimizing antioxidant substances extraction produced by *Holothuria atra* using ultrasonic with response surface method
3. POTENSI BAKTERI LAUT SEBAGAI SUMBER ANTIBIOTIK BARU PENGHAMBAT *SACCHAROMYCES AUREUS*
4. Anti-mycobacterium compound derived from *Erythrobacter* sp. isolated from *Callyspongia aurizusa*
5. ACUTE ORAL TOXICITY ASSESSMENT OF THE ETHANOL EXTRACT OF *HOLOTHURIA ATRA* IN MICE
6. Biotechnological Potential of Bacteria Isolated from the Sea Cucumber *Holothuria leucospilota* and *Stichopus vastus* from Lampung, Indonesia
7. The potent antimicrobial activity of brominated compounds extracted from the marine sponge *Lamellodysidea* sp. (Seribu Islands, Indonesia)
8. The antibacterial evaluation of haliclona associated bacteria and the relating compounds derived from the host
9. Pengaruh Nutrisi Dan Suhu Terhadap Selektivitas Potensi Antibakteri Dari Bakteri Yang Berasosiasi Dengan Spons
10. Defence Mechanisms and Biological Capacities of Organic Extracts of 10 Species of Indo-Pacific Sea Cucumbers
11. Chemical Defence of an Indo-Pacific Sea Cucumber: *Bohadschia argus* (Jaeger, 1833)
12. Identification of the Bacterium FJAT Secondary Metabolite by Gas Chromatography-Mass Spectrometer and Their Antimicrobial Activity Test
13. Biological activities of *Bacillus* sp. From deep sea sediment of Makassar strait
14. A review of chemistry and biological activities of the Indonesian Octocorallia
15. Bioassay-Guided Isolation of an Antibacterial Compound from the Indonesian Soft Coral
16. Phytochemical composition and anticancer activity of seaweeds *Ulva lactuca* and *Eucheuma cottonii* against breast MCF-7 and colon HCT-116 cells

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