

Antibacterial Compounds from Korean Marine Sponges

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Human infections caused by bacteria and fungi becomes an formidable therapeutic challenge because of the recent appearance of antibiotic-resistance strains. The problem of bacterial and fungal resistance to drugs has been solved by the discovery of new classes of drugs such as the aminoglycosides, macrolides, and glycopeptides to date.¹ Sponges have been known as one of the richest sources of bioactive natural products among marine organisms. Metabolites from marine sponges possess various biological activities such as antimicrobial, antifungal, antiviral, immunosuppressive, anticancer, anti-inflammatory, neurotoxic, and cytotoxic activities.² In the course of searching bioactive substances from Korean marine invertebrates, extracts of the two sponges among 200 specimens were screened out to be significantly antibacterial and antifungal. More than 20 different compounds were purified. Among them seven bioactive compounds were structurally characterized and two of them were found to be novel compounds. The first isolated compound was a novel pentacyclic sesterterpene with scalarane skeleton. The second compound was a novel cyclic depsipeptide of halicylindramide class.³ These compounds showed very potent antibacterial and antifungal activities against several pathogenic bacterial and fungal strains.

References

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