SEARCH FOR BIOLOGICALLY ACTIVE SUBSTANCES FROM OKINAWA MARINE ORGANISMS
-ISOLATION AND STRUCTURES OF THE COMPOUNDS WHICH INHIBIT THE DIVISION OF THE FERTILIZED SEA URCHIN EGGS-

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ABSTRACT

Ethyl acetate extracts of 75 Okinawa marine organisms were screened by the fertilized sea urchin egg assay. Among them 51 specimens showed potent cytotoxity and 20 specimens exhibited moderate activity.

The constituents of five marine organisms (three sponges, one soft coral and one alga) whose ethyl acetate extract displayed strong inhibition of various cleavages of fertilized sea urchin eggs were examined. Bioassay guided fractionation of these extracts led to the isolation of twelve compounds of which eight (**1**, **2**, **3A**, **3B**, **4A**, **4B**, **5** and **6**) were new. The structures were established by 1D and 2D NMR spectroscopy and mass spectroscopy. Compounds **1** and **2** inhibited the first cleavage of the fertilized sea urchin eggs at 1 ppm. Compounds **3A**, **3B**, **4A**, **4B** and **8** inhibited the development of the fertilized sea urchin eggs at the blastula stage.

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