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# How drugs from marine sources are isolated and produced

Aquaculture Department, Southeast Asian Fisheries Development Center

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Southeast Asian Fisheries Development Center, Aquaculture Department (1995). How drugs from marine sources are isolated and produced. Aqua Farm News, 13(5), 5.

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<http://hdl.handle.net/10862/2481>

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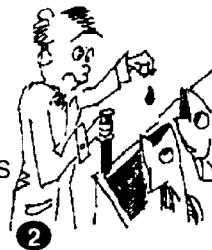
# HOW DRUGS FROM MARINE SOURCES ARE ISOLATED AND PRODUCED



**PRELIMINARY ISOLATION**  
Drug suggested by analogy or general screening program

1

**SCREENING AND DISCOVERIES**  
Unique or potentially useful biological activity is found



2



**SOURCE MATERIALS**  
Obtain enough material to isolate and characterize active compound(s)

3



**CHARACTERIZATION AND SYNTHESIS**

5

**EFFECTIVE CHEMOTHERAPY**  
Test for efficiency in treatment of animals



4

**MASS SCALE SYNTHESIS**



6



**PHARMACOLOGICAL STUDIES**  
Testing for drug activity and safety

7



**GOVERNMENTAL APPROVAL**

- Disclosure of complete drug source and manufacturing information
- Preclinical results disclosed
- Future research plans and other supporting data

8



**CLINICAL EVALUATION**

- Testing with human volunteers to determine metabolism, absorption and elimination, side effects, safe dose range, preferred method of administration. Obtain therapeutic index (value versus hazards).
- Initial diagnosis test
- Outside controlled tests

9

**MASS PRODUCTION**  
Economic, governmental, technical limitations apply



10



**MARKETING PROCEDURES**  
Economic, governmental, technical limitations apply

11

Illustrated by I. Tendencia. Reference: MT Doig III, DF Martin, GM Padilla. 1973. *Marine bioactive agents: chemical and cellular correlates*, p. 6. In: DF Martin and GM Padilla (eds). *Marine Pharmacognosy Action of Marine Toxins at the Cellular Level*. Academic Press, New York. 317 p.