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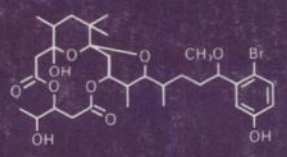
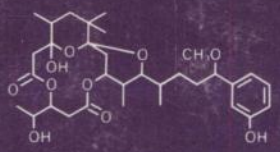
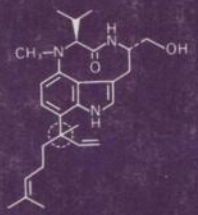


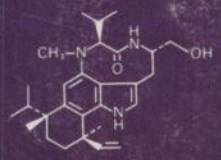
Aplysiatoxin



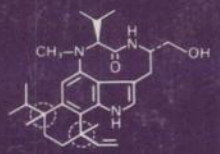
Debromoaplysiatoxin



Teleocidin A
Lyngbyatoxin A



Dihydroteleocidin B



Teleocidin B

LEUKEMIA RESEARCH FOUNDATION GRANTS

The Leukemia Research Foundation, Inc. announces funds are available to support research in the field of leukemia. Currently two types of grants are being funded; research grants, and postdoctoral fellowships.

The following guidelines apply:

1. Maximum limit is $35,000 for research grants, and $20,000 for postdoctoral fellowships.
2. Grants and fellowships are for a one-year period.
3. Institution of affiliation must provide both a report of the results of the research and a financial report.
4. No funds shall be applied to institutional overhead (indirect costs).
5. Preference will be given to researchers new to this field.
6. Deadline for receipt of completed grant applications is February 22, 1988.

For further information and for applications, contact:

Hollis R. Brownstein, Chairman
Medical Advisory Committee
Leukemia Research Foundation, Inc.
899 Skokie Blvd., Suite LL14
Northbrook, Illinois 60062
phone: 1-312/480-1177

COVER LEGEND

The long history of the concept of two-stage chemical carcinogenesis developed in parallel with the study of the chemistry of croton oil and the identification of one of its components, the phorbol ester 12-*O*-tetradecanoylphorbol-13-acetate (TPA), as a powerful promoter. The pleiotropic effect of TPA attracted the attention of researchers in several disciplines.

The cover notes the discovery of two classes of potent tumor promoters: indole alkaloids and polyacetates. A research group of the Japanese National Cancer Center Research Institute led by Hirota Fujiki, Masami Suganuma, and Takashi Sugimura initiated a new approach to searching for tumor promoters. They first reported that dihydroteleocidin B, a catalytically hydrogenated derivative of teleocidin B, which was isolated from *Streptomyces mediocidicus*, has a tumor promoting activity as powerful as that of TPA in mouse skin (Proc. Natl. Acad. Sci. USA, *78:* 3872–3876, 1981).

Richard E. Moore of the University of Hawaii determined the structure of lyngbyatoxin A, isolated from the marine blue-green alga *Lyngbya majuscula*, a skin irritant [Science (Wash. DC), *204:* 193–195, 1979]. Since lyngbyatoxin A has a structure similar to that of teleocidin B and was later found to be an isomer of teleocidin A, a collaborative study was started between Moore's group in Hawaii and the Japanese research group in Tokyo. Together they succeeded in showing the potent tumor promoting activity of lyngbyatoxin A (J. Cancer Res. Clin. Oncol., *108:* 174–176, 1984). Lyngbyatoxin A, teleocidin, and dihydroteleocidin B comprise the indole alkaloid class of tumor promoters.

The polyacetate class of tumor promoters was discovered after an outbreak of swimmer's itch on Oahu Island, Hawaii, in 1980. The causative agents were debromoaplysiatoxin and aplysiatoxin, isolated from *L. majuscula* (Pure Appl. Chem., *54:* 1919–1934, 1982). The structures of these polyacetates had been elucidated by Kato and Scheuer of the University of Hawaii (J. Am. Chem. Soc., *96:* 2245–2246, 1974). Aplysiatoxin, debromoaplysiatoxin, and their derivatives are the polyacetates, a third class of potent tumor promoters distinct from the phorbol esters and indole alkaloids (Gann, *73:* 495–497, 1982).

Collaborative work between researchers in the United States and Japan has made great progress in research on tumor promotion ranging from the study of TPA to studies on environmental tumor promoters with which humans come into contact. Detailed descriptions of the new tumor promoters can be found in a review by Fujiki and Sugimura (Cancer Surv., *2:* 539–556, 1983). Several contributions dealing with these new tumor promoters are collected under the title "Cellular Interactions by Environmental Tumor Promoters" (Proceedings of the International Symposium Princess Takamatsu Cancer Research Fund, Vol. 14, 1983).

Pictured are, *left* to *right*: Masami Suganuma, research fellow at the High-Risk Study Division of the National Cancer Center Research Institute; Richard E. Moore, Professor of Chemistry at the University of Hawaii; Hirota Fujiki, Chief of the High-Risk Study Division; and Takashi Sugimura, President of the National Cancer Center. Also shown are: *right*, culture slant of *S. mediocidicus; left, L. majuscula* taken from the sea in Okinawa. The latter photograph was provided by courtesy of Dr. Yamazato, University of Ryukyu. We are grateful to Dr. Sugimura for the other photographs and for information.