THE CANCER LETTER

Vol. 13 No. 44

Nov. 13, 1987

Subscription: $160 year North America, $175 year elsewhere

P.O. Box 2370 Reston, Virginia 22090 Telephone 703-620-4646

Bloch Dissatisfied With PDQ, Offers $1 Million To Fund "Tailored" Treatment Data To Physicians

Richard Bloch has not been satisfied with how his crusade to reach the nation's physicians with the latest and best information on how to treat cancer patients has been going.

(Continued to page 2)

In Brief

Kristian Storm Named Chief Of Surgical Oncology At Univ. of Wisconsin; Skibba To Join CTEP

KRISTIAN STORM, professor of surgical oncology at UCLA's John Wayne Cancer Clinic, has been named associate director and professor of surgery and human oncology at the Univ. of Wisconsin Clinical Cancer Center and chairman of surgical oncology at at the UW Medical School. Storm is an expert in localized hyperthermia. The university said his appointment is the first step in establishing a surgical oncology training program. . . . **JOSEPH SKIBBA** will leave the Univ. of Wisconsin in January to head the Surgery Section in the Clinical Investigations Branch of NCI's Cancer Therapy Evaluation Program. . . . **STEPHEN HAZEN,** who has been working in the NCI Financial Management Branch, is the new administrative officer of the Div. of Extramural Activities. He replaces Larry Wray, who is now the Div. of Cancer Treatment administrative officer. . . . **"AIDS: ADVANCES** in Science, Diagnosis & Treatment of Immunocompromised Patients" is the title of a symposium scheduled for Nov. 20 at Columbia Univ. Comprehensive Cancer Center. Bernard Weinstein, director of the center, will be the moderator. Contact Penny Ashwanden, assistant director, at 212/305-6905. . . . **CLARIFICATION:** Announcement of the call for abstracts for the American Assn. for Cancer Research meeting (**The Cancer Letter,** Oct. 23) listed Dec. 8 as the deadline, which is correct for AACR. However, the announcement also mentioned that the American Society of Clinical Oncology annual meeting will be held May 22-24, immediately preceding AACR's, both in New Orleans, and did not mention that the deadline for ASCO abstracts is Dec. 1. ASCO's cancer education program May 22 will be chaired by Bruce Peterson, and the scientific program May 23-24 will be chaired by Clara Bloomfield. The joint ASCO/AACR session will be held May 25. ASCO President B.J. Kennedy said that abstract forms and other information may be obtained from ASCO headquarters, 435 N. Michigan Ave., Suite 1717, Chicago 60611, phone 312/644-0828.

Bloch Offers $1 Million To Expand PDQ Dissemnation; DeVita Cool

(Continued from page 1)

He has offered to spend up to $1 million of his own money to do something about it, but NCI executives are not sure they want it.

Bloch (the "R" of H&R Block, now retired), beat lung cancer, but only after several physicians had told him there was nothing they could do for him. One finally did, and Bloch and his wife, Annette, have devoted much of their time and fortune to the task of assuring that all physicians know about effective cancer treatments.

NCI Director Vincent DeVita shared their enthusiasm for that effort and came up with the idea for Physician Data Query, the on line computer based information system that lists all treatment considered standard, for each site and stage of cancer; all current clinical research protocols along with who is conducting them and where; and names and addresses of nearly every cancer specialist who wants to be included.

PDQ is available through the National Library of Medicine and through computer vendors. DeVita and his staff are satisfied with the growth in physician utilization of PDQ, but Bloch is not. He feels it needs to be promoted more aggressively and has offered to establish and pay for a new approach.

Bloch proposes to install a nationwide toll free phone number and offer to mail free to any physician in the U.S. an updated state of the art treatment regimen for any site and stage, taken from PDQ files. "It would be treatment information tailored to a particular patient," Bloch told the National Cancer Advisory Board, of which he is a member. "It will be completely trouble free and no cost to NCI."

He estimated the cost would be $2 for each report and that 500,000 would be sent over a period of five years. He projected this would save 25,000 lives; "we could save a life for $40."

After five years, Bloch said he feels physicians generally then would see the value of using PDQ on line. "It will not affect PDQ as it currently exists. All we would be doing is to supply hard copies of the state of the art. I believe the medical community will love it."

Other Board members were not so sure. "I've been following the correspondence on this," Board Chairman David Korn said, referring to letters between Bloch and DeVita. "There are problems. I'm not sure it is that simple."

DeVita pointed out that PDQ was designed to provide information on line. "The editorial board meets every month [to review state of the art data in PDQ and compare it with new information from clinical trials]. Major changes are made all the time. Print outs get out of date very quickly."

Susan Hubbard, director of the International Cancer Information Center in which PDQ is located, added that PDQ also provides information on clinical trials, which many physicians request. "The protocol file is dynamic. There is a 30 percent change every month in the text or participants."

Bloch argued that the NCI supported Cancer Information Service offices receive hard copies of changes made by the editorial board. He asked that that information be sent to him.

Hubbard said CIS offices use the hard copies to help maintain awareness of PDQ contents. She also said CIS staff members to tailored responses to individual physician requests on line.

"If all you are asking is to be a self funded CIS, to get the same material and provide the same service as CIS but privately funded, I have no objection," DeVita said. "But I do have a negative view of PDQ printouts. The state of the art changes too fast."

Board member Helene Brown suggested that "to get your 800 number used takes a lot of marketing and promoting."

"That's what we hope Paul Van Nevel [director of the Office of Cancer Communications] can do," Bloch responded, acknowledging that he would need NCI help in that regard.

"Yes, but that would be costly and duplicative of the CIS number [800-4-CANCER]. To market a second number would be an error and expensive," Brown insisted.

"I've been negatively impressed with our ability to market PDQ," Board member Victor Braren said. Board member Geza Jako suggested that a video tape be produced explaining how PDQ can be used.

"We do have a video tape and probably will do another," Hubbard said. "We are in the midst of planning a new marketing plan with OCC."

The issue will be discussed by the Board's

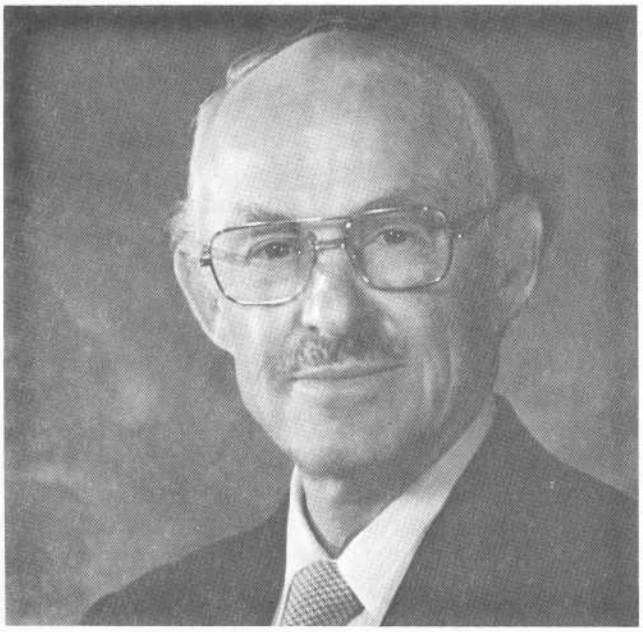
(Continued to page 7)

R. Lee Clark Clinic Dedication Nov. 19 To Honor "The Architect"

The news release from M.D. Anderson Hospital & Tumor Institute noted that the man being honored at the dedication Nov. 19 of the R. Lee Clark Clinic Building "helped shape the Univ. of Texas System Cancer Center into one of the world's largest and most respected centers of its kind."

That is true, but it could also be said that the same man helped shape the National Cancer Program, and in fact cancer research throughout the world, into the most dynamic, productive and promising biomedical research effort ever undertaken.

More than 700 guests are expected to attend the dedication ceremony, starting at 3 p.m. The keynote address will be delivered by U.S. Treasury Secretary James Baker, whose grandfather owned the estate near downtown Houston which served as M.D. Anderson's original home, from 1942-54.



R. LEE CLARK
. . . Great accomplishments

The new 10 story, $41 million R. Lee Clark Clinic Building will more than double Anderson's outpatient treatment facilities. It adds 343,300 square feet of space which permits the hospital to accomodate 1,800 clinic visits a day.

"Dr. Clark was the architect who guided this institution from infancy to great accomplishments," said Charles LeMaistre, who succeeded Clark in 1978. "The facility allows us to consolidate the majority of the institution's outpatient services in one building. It is also a fitting tribute to the man who set this institution on its historical path."

Clark is proud of the fact that the Univ. of Texas System Board of Regents, at LeMaistre's request, made a special exception to the requirement that all UT buildings may be named only for persons who are deceased.

Clark was born in Texas in 1906; his father was founder of Midwestern State Univ. in Wichita Falls and his grandfather was one of the founders of Texas Christian Univ. He received his bachelor's degree in chemical engineering from the Univ. of South Carolina in 1927; his MD from the Medical College of Virginia in 1932. He was chief resident surgeon at the American Hospital in Paris from 1933-35, and then joined the Mayo Foundation where he worked as a surgeon from 1935-39. He served three years in the Army Air Medical Corps during World War II.

In 1946, Clark became the first director and surgeon in chief of M.D. Anderson Hospital for Cancer Research of the Univ. of Texas. It had 22 employees in temporary facilities on the grounds of the Baker estate. Clark immediately set about recruiting the best staff he could find, and worked on designing a new hospital and securing the funds to pay for it. At that task, he turned out to be a master. He developed a strong rapport with key members of the Texas legislature and other powerful figures at the state and national levels.

The new hospital opened in 1954. Under Clark's guidance, it soon became known as one of the world's outstanding cancer research and treatment centers. In 1972, it was one of the three "prototype" comprehensive cancer centers recognized as such by NCI, with Memorial Sloan-Kettering and Roswell Park.

The institution underwent three major expansions under Clark, adding the Science Park-Research Div. on state owned land in another county in 1976; the Mayfair apartment complex for use as a hotel and temporary residence for patients and their families; and the former Southern Pacific Railroad hospital as a rehabilitation center.

Clark was also responsible for starting other nonmedical functions now a vital part of M.D. Anderson, including its extensive volunteer and social service programs, the physicians referral service to help attract top notch staff, and the University Cancer Foundation to assist in securing private

support. His title was changed in 1968 to president of the hospital, and then in 1972, to president of the Univ. of Texas System Cancer Center when the institution was redesignated by the UT System. He held that title until his retirement in 1978 and then served as president emeritus from 1978-81, at which time he was named professor of surgery and oncology.

Clark's greatest service in the fight against cancer may well have been in arenas away from Houston. He was an active and influential member of the Panel of Consultants for the Conquest of Cancer, established in 1970 by then Sen. Ralph Yarborough of Texas, who was chairman of the Senate Committee on Labor & Public Welfare. It was the Panel's recommendations that led to the National Cancer Act of 1971.

The Act created the three member President's Cancer Panel, and Clark was one of the first three named to that Panel, with Benno Schmidt and Robert Good. In that role, which included participation in National Cancer Advisory Board meetings, Clark helped advise NCI on many crucial decisions brought on by the expansion of its authority and responsibilities.

Clark has been an outspoken advocate and defender of cancer centers as vital elements of cancer research and treatment efforts. He helped organize the Assn. of American Cancer Institutes to further the cause of centers, and he worked with institutions and individuals in other countries to help set up similar organizations. He has been very active in the International Union Against Cancer, helped organize the 10th International Cancer Congress held in Houston in 1970, and took on as his personal project the development of an international satellite communications system for cancer. That effort finally came to fruition during the 14th International Cancer Congress last year in Budapest, when four 30 minute programs summarizing the scientific presentations were broadcast.

Clark capped 30 years of activity with the American Cancer Society by serving as its president in 1976-77.

The first floor of the new clinic area houses the ambulatory treatment center, where patients receive chemotherapy. Other patient services located in the clinic include diagnostic imaging, laboratory medicine, various site specific services, clinical immunology and the Div. of Surgery.

Komen, UT Southwestern, Baylor Form Alliance Against Breast Cancer

In another development in Texas, two major Dallas medical institutions and a foundation have joined forces to launch a $12 million unified effort to fight breast diseases and breast cancer.

Officials from the Susan G. Komen Foundation for the Advancement of Breast Cancer Research, the Univ. of Texas Southwestern Medical Center at Dallas, and Baylor Univ. Medical Center announced a unique joint effort: the Susan G. Komen Alliance for Breast Disease Treatment, Research and Education.

The three groups hope to raise $12 million by 1990 to finance the effort. The Komen Foundation Board of Directors has pledged $1.5 million during the next three years and will seek another $4.5 million through community fund raising. UT Southwestern and Baylor officials have pledged to match funds raised by the Foundation.

Income from the $12 million endowment will be used to finance basic science research, clinical research and education of physicians and the public.

NCI Director Vincent DeVita praised the endeavor, saying it was a way "to get more bank for the buck" in the fight against breast cancer. "That approach will bring progress more quickly. This forging ahead will be good for breast cancer and good for Texas. When you take good people and bring them together to focus on a problem, things happen faster."

About 6,600 of the 130,000 new cases of breast cancer diagnosed each year in the U.S. are in Texas; 1,100 are in the Dallas area.

"We are hoping that the Alliance will provide treatment for breast diseases in a more comprehensive, targeted fashion than anywhere else in the country," said Nancy Brinker, chairman and founder of the Komen Foundation. Brinker is a member of the National Cancer Advisory Board.

Baylor's Sammons Cancer Center will serve as the primary clinical arm of the Alliance. UT Southwestern will provide a basic research effort into breast cancer.

The Alliance will provide experimental treatment for patients who fail conventional therapy and a larger patient base for such clinical trials, according to Stephen Jones, head of Sammons' clinical research effort in breast cancer.

Fourteen New OIG Awards Made This Year, Bringing Three Year Total To 58

Fourteen more Outstanding Investigator Grants were approved by the National Cancer Advisory Board in 1987, bringing the total awarded in the unique program in its first three years to 58. The coveted, seven year awards are the result of demands from the scientific community that a portion, at least, of NCI's budget should support people, not projects.

The OIG concept was first introduced at a meeting of the President's Cancer Panel in Boston in 1982, in response to complaints by NCI grantees of the enormous time commitment required by the grant application process. The Panel, chaired by Armand Hammer, gave consideration to what many researchers had been saying:

"The amount of time we have to spend on getting ready to do the research is incredible. . .the day to day bookkeeping activities, which require people aside from ourselves, and overhead on these people, drain our time and our energy so that it is much more difficult to do science. . .The big trouble with the whole system is that we fund projects, not people. . .You ought to look at the recent track record of a person, and fund him that way."

The Panel continued to discuss the OIG concept at subsequent meetings and later established an ad hoc working committee to develop parameters for this grant instrument. Harold Amos, of Harvard Univ. and a member of the Panel, chaired the committee.

Amos' committee presented its OIG report incorporating comments from the scientific community to the Panel in October, 1983. The Panel strongly endorsed the initiative and NCI subsequently developed the grant's parameters and guidelines, which were published in March, 1984.

The response was enthusiastic, with the submission of more than 100 letters of intent and nearly as many applications, resulting in the first group of 23 awards.

OIG is a competitive, peer reviewed grant, intended to support those investigators who have had outstanding records of accomplishments in cancer research for at least five years in the recent past. Review is conducted by ad hoc committees, entirely by mail, an unusual process at NIH and somewhat controversial at NIH headquarters.

Prospective applicants submit letters of intent describing their accomplishments and projects to be undertaken with OIG support, curriculum vitae and bibliography, followed by formal research grant applications. However, because of their proven research accomplishments, applicants are not required to provide the customary detailed research plan. Letters of intent are not required but may be submitted at the applicant's option.

To relieve investigators of the need for frequent grant applications, OIG awards are made for up to seven years instead of the usual three. The maximum seven year time period is renewable.

Ultimately, OIG recipients divest themselves of their other NCI and NIH grants to commit nearly all of their research efforts to work supported by the OIG grant. In general, the program has not impacted the NCI budget or investgators supported by other funding mechanisms, since for the most part, it is supported with funds the recipients were already receiving through ROIs or POIs.

The deadline for submission of applications each year is June 15. Letters of intent, applications and questions regarding the program should be directed to Barbara Bynum, Director of the Div. of Extramural Activities, NCI, Bldg 31 Rm 10A03, Bethesda, MD 20892.

"The amount of time and energy spared these investigators in the application process will encourage innovative research of unusual potential," NCI Director Vincent DeVita said.

The 58 awards made in the first three years, with the institutions and project titles:

Bruce Ames, Univ. of California (Berkeley), mutagenesis and carcinogenesis.

Claudio Basilico, New York Univ. Medical Center, viral and cellular gene expression and growth regulation.

Thomas Benjamin, Harvard Univ., natural and unnatural roles of the polyoma Hr-t gene.

Michael Bishop, Univ. of California (San Francisco), retroviruses and cancer genes.

Edward Boyse, Sloan-Kettering Institute for Cancer Research, normal and abnormal cell surface genetics.

Charles Cantor, Columbia Univ., gene structure, arrangement, dynamics and expression.

Yung-chi Cheng, Univ. of North Carolina (Chapel Hill), development of anticancer and antiviral compounds.

John Coffin, Tufts Univ., molecular

biology of retroviruses.

Stanley Cohen, Hahnemann Univ., activation and regulation of normal and neoplastic cells.

Carolo Croce, Wistar Institute, genetics of human hematopoietic neoplasias.

Martin Dorf, Harvard Medical School, cellular pathways involved in immunoregulation.

Peter Duesberg, Univ. of California (Berkeley), retroviral onc genes and cellular proto-onc genes.

Lawrence Einhorn, Indiana Univ. School of Medicine, innovative studies with chemotherapy in solid tumors.

Herman Eisen, Massachusetts Institute of Technology, reaction of cytotoxic T lymphocytes with target cells.

Raymond Erikson, Harvard Univ., biochemistry of the cancer cell.

Myron Essex, Harvard School of Public Health, naturally occurring viruses associated with disease in animals and man.

Isaiah Fidler, Univ. of Texas System Cancer Center, human cancer metastasis: biology and treatment.

Frank Fitch, Univ. of Chicago, regulation of T lymphocyte immune responses.

Emil Freireich, Univ. of Texas System Cancer Center, therapy and the biology of human leukemia.

David Goldenberg, Center for Molecular Medicine & Immunology, radioimmunodetection of cancer.

David Goldman, Virginia Commonwealth Univ., cellular pharmacology of anticancer agents.

Howard Green, Harvard Medical School, terminal differentiation of epidermal and adipose cells.

Peter Guengerich, Vanderbilt Univ., enzymatic activation of chemical carcinogens.

Sen-itiroh Hakomori, Biomembrane Institute, glycolipids in differentiation and oncogenesis.

Hidesaburo Hanafusa, Rockefellor Univ., analysis of cell transformation by retrovirus.

Philip Hanawalt, Stanford Univ., cellular processing of damaged DNA: role in oncogenesis.

Stephen Hecht, American Health Foundation, metabolic activation of carcinogens.

Leonard Herzenberg, Stanford Univ., genetics of immunoglobulins and lymphycyte molecules.

Susan Horwitz, Albert Einstein College of Medicine, antitumor drugs: mechanisms of action and resistance.

Frank Huennekens, Scripps Clinic & Research Foundation, folate and B_{12} coenzymes.

Anthony Hunter, Salk Institute for Biological Studies, role of protein physphorylation in growth control.

Rudolf Jaenisch, Whitehead Institute for Biomedical Research, retroviruses, oncogenes and mammalian development.

Elliott Kieff, Brigham & Women's Hospital, molecular biology of Epstein-Barr virus infection.

Lawrence Loeb, Univ. of Washington, fidelity of DNA replication.

Thomas Mack, Univ. of Southern California, epidemiologic research in cancer etiology.

Frank Maley, New York State Dept. of Health, studies of thymidylate synthase and deoxycytidylate deaminase.

Beatrice Mintz, Institute for Cancer Research, development vs. neoplastic proliferation of stem cells.

Harold Moses, Vanderbilt Univ. Medical School, transforming growth factors in neoplastic transformation.

Garth Nicolson, Univ. of Texas System Cancer Center, tumor metastasis.

Peter Nowell, Univ. of Pennsylvania, studies of neoplastic and normal leukocytes.

Ralph Reisfeld, Scripps Clinic & Research Foundation, molecular profile of melanoma and neuroblastoma antigens.

Robert Roeder, Rockefeller Univ., molecular basis of cell growth and transformation.

Janet Rowley, Univ. of Chicago, chromosome abnormalities and human leukemia and lymphoma.

Erkki Ruoslahti, La Jolla Cancer Research Foundation, molecular mechanisms of cell adhesion.

Ruth Sager, Dana-Farber Cancer Institute, genomic changes in cancer: mechanisms and consequences.

Mathew Scharff, Albert Einstein College of Medicine, somatic cell genetics of IG genes.

Pentti Siiteri, Univ. of California (San Francisco), sex hormones and cancer.

Jesse Summers, Institute for Cancer Research, persistent infections by hepadnaviruses.

Harold Varmus, Univ. of California (San Francisco), molecular analysis of retroviruses and oncogenes.

Peter Vogt, Univ. of Southern California,

onc genes in virus and cell.

George Weber, Indiana Univ., enzyme pattern targeted chemotherapy.

Robert Weinberg, Whitehead Institute for Biomedical Research, molecular basis of carcinogenesis.

Harold Weintraub, Fred Hutchinson Cancer Research Center, generation of development mutants with cloned DNA vectors.

Noel Weiss, Univ. of Washington, research in cancer epidemiology.

Irving Weissman, Stanford Univ., normal and neoplastic lymphocyte maturation.

Sherman Weissman, Yale Univ. School of Medicine, molecular genetics of cancer.

George Wied, Univ. of Chicago, computer based expert system for cervical cytology.

Michael Wigler, Cold Spring Harbor Laboratory, genetics of cell proliferation.

New Publications

"NCI 1989 Fiscal Year Bypass Budget," the document required each year by the National Cancer Act. A succinct, factual justification of the request for more than $2 billion for the fiscal year starting Oct. 1, 1988. NCI's unique authority to prepare what the Institute and its advisors consider the optimal budget, without interference from any level of the government, gives it the opportunity to present publicly the needs of all program areas if they are to provide the maximum results. The bypass budget is tied closely to the Year 2000 Goals. Available free from Mary Knipmeyer, PhD, NCI, Bldg 31 Rm 10A52, Bethesda, MD 20892.

"Closing In On Cancer: Solving a 5,000 Year Old Myster," published by NCI"as a tribute to all those who have dedicated their careers to the study of cancer." Superb, beautifully illustrated history of cancer research. Magazine size, 40 pages, available free from NCI, Office of Cancer Communications, NIH, Bethesda, MD 20892.

"Registry of Toxic Effects of Chemical Substances," 13th edition published by the National Institute for Occupational Safety & Health. National Technical Information Service, 5285 Port Royal Rd., Springfield, VA. 22161, phone 703/487-4600, two volume set, $138.95 plus $3 handling.

"Effortless Effort," an album of relaxation tapes developed and recorded by Naida Colby, RN. Originally prepared for patients in the Chronic Pain Rehabilitation Program at Abbott Northwestern Hospital/Sister Kenny Institute in Minneapolis. Naida Colby, PO Box 26609, St. Louis Park, MN 55426, $40 plus $2 handling.

"Prostate Cancer, Part A: Research, Endocrine Treatment and Histopathology;" and "Prostate Cancer, Part B: Imaging Techniques, Radiotherapy, Chemotherapy and Management Issues,: both edited by Gerald Murphy, Saad Khoury, Rene Kuss, Christian Chatelain and Louis Denis. Alan R. Liss, 41 E. 11th St., New York 10003, phone 212/475-7700, $98 each.

"The Breast Cancer Epidemic in the United States: How 15,000 More Lives Can Be Saved Each Year," by Ezra Greenspan, clinical professor of medicine at Mount Sinai School of Medicine. A chemotherapist's perspective. Chemotherapy Foundation, 183 Madison Ave., New York 10016, phone 212/213-9292, $5, bulk prices available.

"Viral Carcinogenesis: Functional Aspects," edited by Niels Kjeldgaard and Jes Forchhammer. Raven Press, 1185 Avenue of the Americas, New York 10036, phone 212/930-9500, $90.

"Principals of Cancer Biotherapy," edited by Robert Oldham. Raven Press, address above, $77.

DeVita Cool On Bloch Plan; Mihich Worries About Cancer Money For AIDS

(Continued from page 2)

Information Committee prior to the February meeting.

NCAB Notes. . . Board member Enrico Mihich, commenting on the 9 percent budget increase for NCI in the House appropriations bill compared with 21.9 percent for the National Institute of Allergy & Infectious Diseases: "That leaves nothing for exploiting new opportunities. Something is wrong. We are supplying a lot of resources from cancer for AIDS, out of the kindness of our hearts. It's appropriate. You can't hold back scientists. The problem is, how far can we go? We still have one cancer patient dying every minute"

. . .

Jako: "I want to go on record as favoring interleukin-2 for adjuvant therapy. When there are fewer cancer cells, the new biological therapies have a better chance to be more effective". . .

DeVita, on the information that fewer than 30 percent of adult Americans are smoking, down from over 40 percent a few years ago: "We may be ahead of the game" in relation to the Year 2000 goal of reducing by half the number who smoke.

RFAs Available

RFA 88-GM-01

Title: Characterization of the genomes of humans and model organisms

Application receipt date: Jan. 14

The National Institute of General Medical sciences invites research grant applications for support of research projects directed toward characterizing the human genome or the genomes of model organisms. The objective is to stimulate research that will improve our ability to analyze the entire genome of an organism, with the eventual goal of applying this knowledge to the analysis of the human genome and to the prevention, diagnosis and treatment of human disorders. It is possible that special funds will be available to support competitive research programs that further these goals. Potential applicants are strongly advised to contact NIGMS staff before submitting applications.

Among the tools which will be necessary for study of the human genome are a genetic map and physical maps. Most scientists now agree that a prerequisite to any major initiative to determine the complete sequence of human DNA is construction of such maps. Identification of polymorphic markers frequently spaced, perhaps every one to five centiMorgans (cM) on the human genetic map, would greatly facilitate creation of physicial maps, isolation of human genes, development of tools for the diagnosis of genetic disorders, research into the organization of the human genome, and ultimately determination of the DNA sequence of the human organism. Another crucial step in the sequence analysis of the human genome is the development of physical maps of human DNA, including both restriction maps based on the location of recognition sites for infrequently cutting restriction enzymes and a complete set of ordered, overlapping clones of human DNA.

It is also true that much of the current knowledge of genome organization and function has come from studies of model organisms. Studies in these areas, employing a number of such model organisms, are underway with support from several organizations. NIGMS regards the genetic and physical maps, as well as the genomic DNA sequences, of several widely used model organisms--yeast, Drosophilia, and mouse--to be particularly valuable research tools for understanding the organization of eukaryotic genomes, including that of the human. Research utilizing physical maps and the DNA sequences of the genomes of these and other model organisms will facilitate chracterization of the human genome. In addition, the improvements in methodology and technology generated by such research would have many important applications.

The purpose of this RFA is to encourage investigators to submit applications focused on these topics:

*Genetic and physicap maps of the human genome

The first objective of this project is to complete, as rapidly as possible, the construction of a high resolution human genetic map. Such an effort is already well under way: NIGMS support is intended to speed and facilitate the mapping effort. Applications should focus on the goal of isolating and mapping restriction fragment length polymorphisms approximately every one to five cM on the human genetic map.

The second objective is to begin development of physical maps of human DNA. Applications should focus on one or more of the following: (a) the isolation of a set of ordered, overlapping clones; (b) development of a restriction map from chromosomal segments or entire chromosomes; (c) the improvement of techniques for developing these maps.

Because both of these objectives represent large and complex initiatives, it is expected that several laboratories will be involved. Awardees will be expected to share information and work closely with other scientists involved in constructing the human genetic map and to make all materials derived from this work available to the scientific community and to the relevant repositories and data collections.

*Mapping and sequencing of the genomes of model organisms

Research projects which will lead to the characterization of the genomes of several model organisms are under way. Construction of the genetic and physical maps and determination of the sequences of the DNA of three of these organisms--yeast, Drosophila and mouse --will facilitate analysis of genomes. Applications in these areas are actively being sought and collaborative projects involving several scientists are encouraged. Applications in response to this aspect of the RFA should focus on:

--Expansion of the genetic map, refinement of the physical map, and linkage of the genetic and physical maps of yeast, Drosophila and mouse.

--Determination of the DNA sequence of chromosomal segments, complete chromosomes, or the entire genomes of yeast, Drosophila and mouse.

Utilization of the DNA sequence data for the analysis and characterization of genomic information is encouraged as part of all of these proposed mapping and sequencing projects. Research to be supported under this part of the RFA is focused on these four model organisms because it is expected that progress can be made rapidly and will be of considerable benefit to the program for characterizing the human genome as well as to other basic science projects. As in the case of research projects dealing with the human genome, awardees studying model organisms will be expected to share information with other scientists involved in related projects and to make all materials derived from this work available to the scientific community and to the relevant repositories and data bases.

Support for this program will be through project grants (R)1) and program projects (PO1). Applications submitted by collaborating investigators from more than one institution can be supported by consortium arrangements.

It is anticipated that in fiscal year 1988 up to $5 million will be allocated to research initiatives described in this RFA. This amount may be increased if a large number of highly meritorious applications are received and if funds are available.

It is strongly recommended, but not required, that potential applicants contact NIGMS staff to discuss research objectives. Each prospective applicant is advised to submit by Dec. 1 a letter of intent which includes a descriptive title of the proposed research and names of key members of the program. The letter of intent is not a requirement for submission of an application.

For more information and copies of the complete RFA, contact Dr. Mark Guyer or Dr. Irene Eckstrand, NIGMS, NIH, Westwood Bldg Rm 918, Bethesda, MD 20892, phone 301/496-7137.

The Cancer Letter _Editor Jerry D. Boyd Associate Editor Patricia Williams

Published forty-eight times a year by The Cancer Letter, Inc., P.O. Box 2370, Reston, Virginia 22090. Also publisher of The Clinical Cancer Letter.