THE CANCER LETTER

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OBEY CONVINCES HOUSE HEW SUBCOMMITTEE TO CUT $17 MILLION FROM CONTROL, GIVE IT TO BIOASSAYS

Congressman David Obey has persuaded the House HEW Appropriations Subcommittee to transfer $17 million from NCI's Div. of Cancer Control & Rehabilitation 1980 fiscal year budget to the Carcinogenesis Testing Program. If allowed to stand, the reprogramming would be a devastating blow to the Cancer Control Program.

Obey's efforts also led the subcommittee to reprogram an additional $6 million from other NCI divisions to the testing program. The additional $23 million would double the budget for chemical/carcinogenesis bioassays, the program now administered by the National Toxicology Program. No information was available on from where the $6 million would come. (Continued to page 2)

In Brief

NOBEL LAUREATE JOSHUA LEDERBERG TO REPLACE SCHMIDT AS PRESIDENT'S CANCER PANEL CHAIRMAN

JOSHUA LEDERBERG, who won a Nobel Prize for his work in genetics, will be the new chairman of the President's Cancer Panel. Lederberg, who has been at Stanford, recently became president of Rockefeller Univ. with the retirement of Frederick Seitz. Lederberg replaces Benno Schmidt, whose term on the Panel expired 15 months ago. . . . **HOUSE PASSED** S. 869, modifying restrictions on top government executives who take jobs outside government, diminishing the prospect that NCI Director Arthur Upton would resign before the restrictions were to go into effect July 1. No difficulties are expected in reaching agreement with the Senate over its version, and the President has indicated he will sign it. . . . **GENERAL ACCOUNTING** Office took exception to criticism by ***The Cancer Letter*** (May 18) of its report on NCI's Carcinogenesis Testing Program. Some of the criticism was based on failure by GAO to acknowledge a response by NCI which refuted some of GAO's charges. The NCI response quoted by ***The Cancer Letter*** was dated April 27, after the GAO report had been issued, so that aspect of the criticism, at least, was not warranted. . . . **ALAN SARTORELLI**, chairman of the Yale Dept. of Pharmacology, has been named chairman of the selection committee for the Bristol-Myers award for distinguished achievement in cancer research. . . . **DEANNE GOTTFRIED**, an MD and MPH, has been appointed associate director for cancer control with the Northern California Cancer Program. . . . **ENVIRONMENTAL DEFENSE** Fund has filed suit in U.S. district court to force EPA to initiate immediate rulemaking for inspection and repair of asbestos problems in public schools. The existing EPA program relies on voluntary inspection by states and school boards. EDF charged that only six states—Maine, New Mexico, Alabama, Massachusetts, Nevada and North Carolina plus the District of Columbia—have completed inspection of schools, and only Georgia and D.C. have completed repairs.

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NEW CONTROL PROGRAMS, SOME EXISTING ONES THREATENED BY OBEY'S ACTIONS

(Continued from page 1)

Obey's actions were taken during the closed door markup session on the 1980 appropriations bill by the subcommittee, now chaired by Congressman William Natcher of Kentucky. The subcommittee did not intend to make public the marked up bill until it is acted upon by the full Appropriations Committee. Details have been leaked, however, including Obey's manipulations and the addition of about $17 million to the NCI budget, all earmarked for traditional (R01) grants.

NCI had hoped to start about 70 new bioassays with the $23 million in the President's budget request for FY 1980. Obey obviously felt that was not enough. (Obey's staff member authorized to speak on the issue was not available for comment by press time.)

Just how many additional compounds could be tested with the budget increase is a matter for conjecture. NCI has been using the estimate of $200-225,000 as the cost of a single full scale bioassay. There are other estimates, however, that place the real cost closer to $500,000.

The impact on the Cancer Control Program of a $17 million cut would be severe. DCCR was to receive $66 million, virtually the same amount it is spending in FY 1979. As with most NCI extramural programs, 80-90% is committed to fund second, third and sometimes fourth and fifth years of projects supported through contracts and grants. NCI and NIH have generally considered noncompeting contract and grant renewals as moral commitments, except when recipients have failed to perform. Even then, phaseout money usually is provided.

Cutting DCCR back to $49 million most certainly would eliminate any new ventures, including the new Community Oncology Program (which, incidentally, was virtually mandated by Congress in an amendment to the Cancer Act last year). It also probably would result in premature termination of a number of existing projects, with all the dire consequences that implies—people who have committed themselves to cancer control efforts would find themselves out of jobs; loss of data already generated; loss of confidence in the Cancer Program.

Another consequence could be the delay or the end of Director Arthur Upton's plans to create a new Div. of Cancer Prevention. That plan was to transfer existing cancer control prevention programs into the new division, along with certain programs from the Div. of Cancer Cause & Prevention. Some of DCCR's prevention programs could be among those terminated early by the budget cut.

Obey reportedly justified axing the control budget on the basis of criticism of DCCR's administration of the Cancer Control Program.

This is not the first time Obey used his powerful position on the subcommittee in an effort to help the Carcinogenesis Testing Program at the expense of other NCI activities. Three years ago, at a time when NCI was desperate for staff to help administer a variety of programs which had grown immensely while the Nixon and Ford Administrations imposed position ceilings on NIH, Obey wrote into an appropriations bill an increase of some 60 positions for NCI, and earmarked them all for the Carcinogenesis Testing Program (he also added 17 positions for environmental epidemiology). There was no question that the testing program needed more staff, but it did not need that many, and other NCI programs needed them just as badly.

NCI still has not been able to fill all 60 slots, due to recruiting difficulties, although the additional staff members that have been hired have helped ease the crunch and it is making possible the phasing out of the use of a prime contractor to administer the program.

There are some who wonder about the urgency for testing more compounds, when at least 200 have been identified as carcinogens but which have not been removed or controlled through regulatory action. More effective action might be to put more pressure on the regulatory agencies.

Even when bioassays turn up a carcinogen with wide human exposure, such as cigarette smoking and saccharin, and when a regulatory agency attempts to act (as FDA did against saccharin), Congress hasn't been much help. Legislation is being considered now forbidding FDA to regulate saccharin for another three years.

The subcommittee added $208 million to the NIH budget for 1980 above the President's request. Most of the increase (including NCI's share of it) was intended for grants, to permit each institute to fund applications with priority scores of 212 or better. The President's budget would have permitted funding only to 172 or better.

NCI ASKS $1.135 BILLION FOR FY 1981, EXPLAINS HOW NEW MONEY WOULD BE SPENT

NCI will ask the President for a budget of $1.135 billion to support the Cancer Program in the fiscal year which will start Oct. 1, 1980 (FY 1981). That would be an increase of $181 million over the amount NCI expects Congress to appropriate for the 1980 fiscal year.

The size of the requested increase is not in keeping with Presidential budgets in recent years nor with the modest increases approved by Congress. It is probably substantially more than Congress can be expected to go for next year, unless the country's economic situation changes drastically.

NCI determined, however, that research and control opportunities and congressional mandates fully justify a big increase over what has been essentially a

lack of intimacy with how it was exercised and would contradict the original intent of the Congress. It would remove a vital tool, essential to the continued dynamism of the national cancer effort.

"As to the power to appoint, we believe that the kind of administrator and overseer I alluded to above cannot be lured into government service by anything less than a Presidential appointment. Money won't bring them in. The routine advisory committee position won't, either.

"The proposed bill would extend spending authority for the next three years but in view of unprecedented inflation and the demonstrated needs of NCI the amounts allocated to it are insufficient.

"We feel that the amounts suggested in the bill for NCI the years 1980 through 1983, although providing increases in line with current budgetary restraints, do not come near to the amounts conceived in the original legislation, and cannot support, today, the program as it was conceived then. At the bare minimum, a cost of living factor should be included in these projected authorizations.

"A new President's Council on the Health Sciences is proposed. Although its members would be appointed by the President, its major function would be to advise the Secretary of Health, Education & Welfare, and Congress about resource allocation in the health sciences within the department. Instead of facilitating the operations of NIH and increasing its effectiveness, it would appear only to serve as another agency to further review the budget and operations of NCI and act as a veil between it and the President in derogation of the expressed Congressional intent. It is difficult to see how a bill which has as its purpose the simplification and reduction of procedures can provide for another bureaucratic barrier.

"In opposing the legislation the American Cancer Society asks for nothing more than the retention by Congress of the current status of NCI with its close statutory relationship to the White House as expressed in the National Cancer Act.

"There could well be a Council such as this bill would provide, to apply a rational process to the allocation of appropriations among various categorical diseases and research areas. And we are aware of the difficulties faced by members of both houses of Congress in arriving at proper allocations. However, ultimately, the process is rightly political, and we think that Congress has made the right political jusgments with regard to the Cancer Program, thus far. Cancer is most likely the costliest of all diseases, economically, emotionally, and socially. In any case, the American Cancer Society is more than willing to submit its views on proper federal spending on categorical diseases to a rational forum. We are convinced that Congress' earlier decision would be supported by any fair set of data. If such a Council is created, however, it should not be done with the hope that the political process would be bypassed. Congress is the ultimate forum for many health questions which, in different times and places have been the prerogatives of priests, or educators, or parents, or others to debate and decide. Ultimately Congress will decide health appropriations, and no such Council can replace Congress' decision-making process.

"Mr. Chairman, you, and a number of members of this committee were the Congressional leaders who in early 1971 took the Senate Panel of Consultants' report, and created the original bill for a national cancer effort. I well remember just a little over eight years ago your introduction of S. 34 was one of your very first actions as chairman of this committee. I give you my personal, as well as my professional judgment and conviction that the tremendous investment you made yourself, and you guided the Congress into making, has accomplished its objectives to this point in time. The returns have been coming in in terms of lives saved, and in terms of man's ability to control, and in some cases, cure cancer. In addition to these 'people-profits,' a conservative estimate of the economic mortality savings in terms of people now living and working—disease free—who have had cancer, totals more than $11 billion a year.

"I urge this Committee to allow the great cancer program that the Congress created be given the continued opportunity to function as the Congress intended it to, without alteration of its special authorities," Rauscher concluded.

Frederico Welsch, Worcester Foundation, representing Foundation Director Mahlon Hoagland, said they were opposed to "the director of NIH experimenting with the peer review process." One provision of S. 988 would require that NIH initial review groups—study sections—include lay persons in their memberships.

Welsch said that the strength of the peer review process is that proposals are reviewed for scientific quality "removed from social and political pressures .... The qualified members of study sections would spend many valuable hours explaining the science to the unqualified."

"I gather you are all reasonably satisfied with the way things are now," Kennedy said. As for the Council on Health Sciences, which would advise on all federal biomedical research efforts and develop five year plans, Kennedy said, "Our committee is dealing with eight to 10 health problems simultaneously. We need some help on it. How else can we do it? The Cancer Panel does that for NCI. There is some question at NIH whether that's appropriate. We've been fortunate in the kinds of people who have served on that Panel, and they've been very helpful to the committee. I would like to have that kind of help for the rest of NIH."

Kennedy also asked, "Why not, for a limited time at least, experiment with lay people on peer review groups?"

Welsch said it "is not appropriate for lay persons to vote on the scientific merit or priority scores of grant applications. But we would have no objection to invitee lay persons to attend meetings."

WATSON, WEINSTEIN CHANGE THEIR MINDS ABOUT FCRC, BACK PROGRAMS THERE

James Watson, Nobel Prize winner and director of Cold Springs Harbor Laboratory, was one of the severest critics of the Frederick Cancer Research Center when he was a member of the National Cancer Advisory Board in 1972-74.

I. Bernard Weinstein, director of the Div. of Environmental Science at Columbia Univ. and an NCI advisor on a number of occasions, has also been a leading FCRC critic.

Watson and Weinstein now are members of the Div. of Cancer Cause & Prevention Board of Scientific Counselors. DCCP has responsibility for the biological (formerly viral) and chemical carcinogenesis programs being conducted at FCRC through the contractor, Litton Bionetics.

The DCCP Board recently reviewed those programs, and more than a few conversions were made. Watson, Weinstein and at least a majority of the Board came away convinced that work going on at Frederick may be worth the $25 million a year it is costing after all.

Earlier opinions on FCRC by Watson, Weinstein and others were based on visits there before the extensive renovations and remodeling which have transformed the former Army biological warfare center into a first class facility. It was also before Ray Gilden and William Lijinsky were recruited by Litton Bionetics to head the biological and chemical carcinogenesis programs, respectively.

The Board also reviewed three DCCP intramural programs—the Environmental Epidemiology Branch, headed by Joseph Fraumini; the Laboratory of Experimental Pathology, headed by Umberto Saffioti; and the Laboratory of Tumor Virus Genetics, headed by Edward Scolnick.

"I am pleased that the site visit reports indicated they were all of high quality," commented Gregory O'Conor, DCCP director. "They agreed that the research was good, often better than the average in the country; some is unique, the best there is in their fields. The site visits pointed up a couple of problems we must face. The major problem is the limitation of space on the NIH reservation for intramural research. We also have a personnel problem, with the numbers of available slots to carry out our mission."

O'Conor said there is also a problem of "program balance. We need to remold, over an appropriate period of time, the structure of the labs so we can be sure our intramural lab work is truly fulfilling the will of Congress and the missions of NIH and DCCP. We realize it will not be easy to make major shifts in government operations. But we recognize the need, and with the support of this Board and the enthusiastic participation of scientists at NIH, we'll evolve into a uniform, integrated program toward the understanding of carcinogenicity. We have to lay out a long range plan for the organization of the labs, encourage independent thinking, and give the lab chiefs as much autonomy as possible, realizing that we have to recognize national priorities."

O'Conor announced that John Cooper, DCCP executive who has been on a two year assignment in Lyon, has returned and is assigned to coordinate the division's extramural program, working as liaison with the three branch chiefs.

The shift of emphasis from research contracts to grants is proceeding, O'Conor said, with some problems encountered in getting into the appropriate grant review cycle. Suggestions for areas of research will be presented to the Board for concept review at its October meeting; those approved will be translated into RFPs and RFAs, for contract and grant solicitations.

An intramural steering committee has been established, O'Conor said. Its function is to provide scientific advice to the extramural program managers and also to provide advice on relevance, need and priority on proposals received. "It is functioning well, but in terms of developing program ideas, has not made any dramatic progress," O'Conor said. "But I think we're almost there."

O'Conor said, "The plan is to identify selected research areas in viral and chemical carcinogenesis, nutrition and perhaps epidemiology that may need review and may be areas in which there are gaps and where contract solicitation may be appropriate. We will put together a half dozen ad hoc working groups, with outside advisors and one or two intramural scientific members and staff to consider subject areas, review research being funded and suggest areas needed and where no one is doing anything. We will present those suggestions to the Board of Scientific Counselors for concept review, then to the steering committee for development of RFPs and RFAs."

The working groups will be informal, without charters (and thus not have to go through the nearly impossible exercise of being approved by HEW).

"I feel we will want to involve intramural scientists with their expertise, at the same time maintaining a policy that they do not have managerial or budget responsibility," O'Conor said.

Board member Lloyd Old asked for more details about the workshops.

"Each of the branch chiefs will be identifying subject areas in chemical and viral carcinogenesis, perhaps nutrition and epidemiology," O'Conor said. "They will identify areas that will suit themselves to workshop discussions. The groups will each have four or five outside scientists, and one or two intramural scientists with the same expertise. They will meet and review the current state of art, look at efforts

being made, numbers of projects and the amount of money in contract and grant support, determine if any pieces are missing, and see what areas might be stimulated by RFAs or RFPs, or just program announcements."

NCI recently proposed to Litton Bionetics that the biological and chemical carcinogenesis programs at FCRC be combined into one "new" Carcinogenesis Program (the Cancer Biology Program there was not affected).

Litton agreed, and as the first step in the consolidation, Gilden was named to head the new combined program. Lijinsky, in reporting on his program at the Board meeting, said, "I was abruptly removed by Litton management."

A Litton executive later told *The Cancer Letter* that Lijinsky had not been "removed" but that Gilden had been selected entirely for his managerial capability.

Whatever, Lijinsky's apparent demotion created some furor among his colleagues, and both Litton and NCI took considerable heat over it. About two months later, the decision was made to make Lijinsky and Gilden "co-directors" of the combined Carcinogenesis Program. One consideration in that decision was that by elevating Gilden to the No. 1 role, it appeared to some that this was emphasizing viral oncology at the expense of chemical carcinogenesis. "We decided that was a mistake," the Litton executive said.

Watson said he thought the "talk of collaboration between the two units is rather silly. It implies that carcinogenesis occurs through viruses, and that may or may not be true. To suggest collaboration between you (talking to Lijinsky) and Gilden rather than (Michael) Hanna (head of the Biology Program) is silly. Merely saying these two groups have something in common is not the way science works."

Hanna, who also is now Litton's overall director of operations at FCRC, responded that "collaboration with the Biology Program has always existed."

Weinstein said he was "upset by the out of proportion effort with C type viruses. Something has to give in NCI's budget. I'm raising the question whether the effort on C type particles is out of balance."

"Trying to create balance by holding one field back is not the way to get answers," Old said. "The field is now developing as the consequence of 15 years of work."

"We would be slightly more excited if we heard plans for picking up the gaps," Watson said. "The Cancer Program needs more money. We won't have a natural increase in funds in keeping with the advances in science and the ability to spend money well."

Responding to a question by Board member Warren Nichols on use of the Ames test, Lijinsky said his group has found "many potent carcinogens are not mutagens." He added that he did not know if any of the other in vitro tests "are good enough to predict quantitatively."

"The scientific community does not know how to interpret them, or to extrapolate in vivo tests," Weinstein said. "The problem with saccharin is that we don't know if humans metabolize saccharin the same way Canadian rats do. It's a biochemically solvable problem, but will require a major allocation of resources. We should encourage development of a large scale program in comparable carcinogenesis. No one else is doing it. I don't think the National Toxicology Program will do it."

"There are many other things we don't know," said Board member Charlotte Friend. "Different strains of mice respond differently to the same doses."

"And different doses within the same strains of mice," Old said.

Weinstein said there are 30 known human carcinogens. "We should know how they perform against animal and human tissues. But we don't have that data base now. Do human tissues metabolize saccharin the same as rats? If they don't, then we don't need to take it (the reported carcinogenicity of saccharin in rats) as seriously."

Gilden and Lijinsky each summarized their programs. Gilden's report (edited to conserve space):

"This report covers the second complete year of operation of this program under conditions of essentially full staffing. During the current year the process of change has continued with the implementation of several major suggestions made during our most recent peer review. Reflecting changes in the subject matter of traditional research in viral oncology, the program name was changed to Biological Carcinogenesis. A most significant further development has occurred with the consolidation of the Biological Carcinogenesis and Chemical Carcinogenesis efforts into a single Carcinogenesis Program. This consolidation should serve to break down traditional barriers of the two fields and promises a period of cross fertilization, the results of which we await with great excitement and anticipation. Historically, a justification for such a move and the artificial nature of the separation may be found in the work of Reyton Rous, who demonstrated 38 years ago an enhanced oncogenic effect of Shope papilloma virus in rabbits whose ears were treated with coal tar (Rous and Kidd, J. Exp. Med 73: 365-390, 1941).

Specific changes which have occurred in the Biological Carcinogenesis Program during this past year were:

"—The phasing out of the Oncornavirus Immunobiology Section of Howard Charman. After years of significant contribution to the field, Charman has returned to the practice of medicine.

"—Efforts in the Molecular Biology of Retroviruses Section were consolidated under my direction and supervision. The consolidation of this section is in-

tended to provide a clear focus of activities for the group.

"—A new science section, Molecular Biology of Carcinogenesis, was created, which emphasizes the molecular biology of the mouse mammary tumor virus. This section under the direction of Gerald Schochetman also combines elements of the Biology of Type B Viruses Section which has now ceased operation.

"With these changes now in effect, the Biological Carcinogenesis Program has five research sections and four science support activities in the areas of electron microscopy, virus production, microbial testing, and the recently created Hybridoma Group, for production of monoclonal antibodies. The Hybridoma Group us currently under the supervision of Donald Fine.

"During this year, the Primate Virus Immunobiology Section (Harvey Rabin), in collaboration with the Viral Resources Laboratory (Charles Benton), isolated the first type C virus from rhesus monkeys. Within a very short time, each of the science sections had contributed to the characterization of this virus and a publication is now forthcoming in "Science" reflecting this group effort. Because macaques are widely used in carcinogenesis research, we have planned a major effort to characterize the natural history of this virus and its expression in experimental systems.

"A second example of collaboration between sections is the 'creation' of a pseudotype sarcoma virus between MMTV and the defective Kirsten sarcoma virus by Gerald Schochetman (Molecular Biology of Carcinogenesis Section) and Cedric Long (Biology of Type C Viruses Section). This has led the way to the development of new infectivity and neutralization tests for MMTV, which in turn will aid greatly in describing the natural history of this most important virus. This advance came about through a combination of two separate interests and technical approaches. It seems doubtful that any one group working on MMTV would have performed the requisite experiments. These are but two examples of the widespread collaborations within the program which give us confidence that the newly mandated single Carcinogenesis Program will be successful in providing new research insights and opportunities.

"The interests of the five research sections and major trends in the total program can be summarized briefly as follows:

"—Immunochemistry (S. Oroszlan)—primary structure of viral and transformation-specific proteins, synthesis of antigenic and functional regions of sequenced molecules, application to functional and disease prevention situations.

"—Biology of Type C Viruses (C. Long)—identification of mechanisms and molecules responsible for control of expression of endogenous viral genes.

"—Molecular Biology of Carcinogenesis (G. Schochetman)—complete definition of mouse mammary tumor virus strains (proteins and nucleic acids), their distribution, expression and virus host interactions; similar studies with related primate viruses.

"—Primate Virus Immunobiology (H. Rabin)—biology of primate lymphotropic herpesviruses, including immunological and disease related aspects. Interactions of these viruses, oncornaviruses, and other agents in carcinogenesis.

"—Molecular Biology of Retroviruses (R. Gilden)—replication, sequence arrangement, transcriptional control, distribution and interrelationship among select retroviruses.

"During the coming year, the chief new technical approaches to be utilized in the biological carcinogenesis area which will have program wide impact will be:

"Use of the hybridoma system for production of monoclonal antibodies—three of the five sections have already instituted efforts in this area and one major collaboration has been established.

"Use of recombinant DNA technology to provide defined reagents for studies of the genetic structure of retroviruses. The necessary review process to allow this work to proceed has been completed and the projected work has been approved. Coupled with expertise in other aspects of nucleic acid chemistry (hybridization, southern blot technique, nucleic acid sequencing), we expect this approach to allow considerable and rapid advances in understanding the significance of endogenous viral genes. This effort will involve at least two of the science sections.

"To ensure the smooth operation of both program areas, a central administrative structure has been established with responsibility to both directors. Within this administrative system all of the secretarial and scientific support services are centralized. This has ensured efficient and flexible operation with a minimum of personnel."

Lijinsky's report (also edited):

"During the past year the main effort of the program has been aimed toward integration of the work of the several sections in an approach to the assessment of risk of cancer in exposure of people to chemical carcinogens. This is one of the most pressing needs in public health because of the widespread apprehension that all chemicals might be carcinogens, a statement for which there is no evidence.

"On the contrary, it seems likely that most chemicals are not carcinogenic, including even many which are closely related in structure to compounds known to be carcinogens.

"Even amongst compounds which are carcinogenic, there are probably large differences in potency so that, if exposure to them is unavoidable, a judgment of relative risk in exposure to them is needed.

"During the past year and a half the program has been greatly strengthened by the addition of several

outstanding small groups which supplement those already here, including the Nitrosamine Carcinogenesis Section which was brought here by the director. The new groups are: Cellular Aspects of Carcinogenesis; Chemistry of Carcinogens; and Ultrastructural Aspects of Chemical Carcinogenesis, and reports of progress, status, and prospects are summarized here.

"A central part of the activities of the program is a coordinated development of a mechanism for identification of carcinogens and application of it to testing of environmentally important chemicals and assessment of the relative carcinogenic risk posed by them. The evolution of this area of program activity is continuous and the goal is distant, but progress will continue so long as the activities of the sections are integrated and coordinated through the director.

"To aid in evaluation of the short term tests as predictors of carcinogenic effectiveness, the results of testing a variety of types of carcinogen in these systems have been compared. Some of these tests are still in progress, including some of the carcinogenesis tests in animals, but already it can be concluded that the short term tests are reasonable qualitative predictors of carcinogenicity, but are far from quantitative. The hamster embryo cell transformation test, developed by R. Pienta, appears to be superior to the Ames test in predicting carcinogenicity since there have been no false positive results. The groups of compounds used for this evaluation include polynuclear hydrocarbons, nitrosamines, nitrosamides (including nitroso derivatives of several N-methylcarbamate insecticides), secondary and tertiary amine drugs and vinyl compounds. Comparison has also been made between the results of mutagenesis tests of several compounds in Salmonella in this laboratory and in other collaborating laboratories, with surprisingly good agreement in results.

"A somewhat different approach to the prevention of cancer in man is the theme of the Endogenous Formation of Carcinogens Section (M. Kelsey). This section addresses colon cancer, and is concerned with the role played by endogenous chemicals, hormones, and bile acids, in carcinogenesis and therfore impinge on the susceptibility of individuals to the carcinogenic process. This is a generally less well developed area of research but encouraging progress is being made. This section has investigated the generality of the enhancing effect of bile acids in the Ames assay for mutagenesis and has made considerable progress in determining the basis for this effect. While the role of bile acids in modifying the metabolic activation of carcinogens is a primary concern, the effect of these endogenous chemicals on other stages of the carcinogenic process will also be examined.

RFPs AVAILABLE

Requests for proposal described here pertain to contracts planned for award by the National Cancer Institute, unless otherwise noted. Write to the Contracting Officer or Contract Specialist for copies of the RFP, citing the RFP number. Some listings will show the phone number of the Contract Specialist, who will respond to questions. Listings identify the respective sections of the Research Contracts Branch which are issuing the RFPs. Address requests to the contract officer or specialist named, NCI Research Contracts Branch, the appropriate section, as follows:
Biology & Diagnosis Section and Viral Oncology & Field Studies Section—Landow Building, Bethesda, Md. 20014; Control & Rehabilitation Section, Carcinogenesis Section, Treatment Section, Office of the Director Section—Blair Building, Silver Spring, Md. 20910.
Deadline date shown for each listing is the final day for receipt of the completed proposal unless otherwise indicated.

SOURCES SOUGHT

RFP NCI-CB-94330-41

Title: Murine cell line and tumor bank
Deadline: June 4 (for resumes and documentation

Interested sources are invited to submit two copies of their qualifications to provide an efficient system for development, cataloguing, storage and distribution of frozen murine tumor and immune-related tissue culture cell lines.

NCI will only consider to be qualified those organizations having currently on hand a minimum of 10 frozen samples per line of between five and 25 lines in each of the following categories: myelomas, lymphomas, leukemias, and hybridomas. Other desirable categories of lines include macrophage, mastocytoma, fibroblastic and liver tissue culture lines. Full characterization data must be available on all lines and the organization must have the capability of making a minimum of 500 shipments of frozen specimens a year, on demand, to investigators around the world.

A proven expertise in cell line development and handling by the principal investigator is required. It is intended that advertisement of availability of these tissue culture lines will be made in the form of a catalog to be distributed by the contractor.

Respondents should make their documentation in 10 pages or less. Two copies of the resume of capabilities must be submitted.

Contract Specialist: Diane Smith
Biology & Diagnosis
301-496-5565

RFP NO-95460-04

Title: NCP management information system support services (programming)
Deadline: Approximately June 20

The Office of the Director of NCI is soliciting proposals to provide technical support services in the expansion, maintenance, and operation of the NCI Management Information System (MIS). MIS consists of a series of user managed substations which have been designed to meet the information needs of various line and staff organizations while at the same time providing data which can be aggregated to provide summary information to the office of the director.

Maintenance support will provide modification of computer programs, testing, installation, user training, and documentation updates for software and/or procedural changes approved by the MIS configuration control board. Operations support will be used primarily to initialize systems at the start of a new fiscal year and to operate, test or prototype systems prior to release to the user.

For these activities, the contractor will provide personnel experienced in the use of an operating environment similar to that of the NIH Div. of Computer Research & Technology. Implementation support will provide software and related documentation based on MIS/PO-prepared specifications. Activities in this category would be similar to and would require similar skills to those provided under maintenance support.

Offerors shall be limited to those firms having operation facilities within one hour's commuting time of the NIH campus as continued interaction between the contractor and the MIS staff is often necessary.

Contracting Officer: D.M. Keefer
Office of Director
301-427-7984

RFP NCI-VO-91033-66

Title: Production of RNA avian oncogenic viruses
Deadline: June 15

NCI is interested in contracting with a laboratory or organization possessing the necessary knowledge, experience, facilities, equipment and personnel to produce, process, purify and concentrate a total of 100 liters/week of virus containing tissue culture fluid of Rous sarcoma virus, Prague "C" strain. It is expected that the 1000 X concentrate final product shall contain 0.65-1% of high molecular weight RNA on a dry weight basis, 10.11-10.12 particles/ml by electron microscopy and approximately 1 mg/ml viral protein.

Contract Specialist: Clyde Williams
Viral Oncology & Field Studies
301-496-1781

RFP NCI-CM-97292

Title: Research, process development and delivery of human interferon
Deadline: Approximately July 1

NCI will make available to interested contractors a request for proposals for scale-up development and production of 50 billion units each of lymphoblast, leukocyte, or fibroblast human interferon. NCI expects to receive no later than 12 awards after award 10 billion units of interferon and 10 billion units of interferon every three months thereafter until 50 billion units of at least 0.5% purity has been delivered to NCI.

Specifically, the contractor will: 1. Scale-up to a size which will insure production of 10 billion units of human interferon every three months. 2. Deliver at least 10 billion units of interferon after one year and 10 billion units every three months thereafter for one year. Establish optimal conditions for interferon production. Research and production development data will be reported to NCI.

The principal investigator and team must have expertise in virology, fermentation, microbiology, pilot plant (bioengineering), chemical recovery and bioassay and analytical methodology. The organization must have adequate equipment and be able to fulfill FDA drug production requirements.

Contracting Officer: John Palmieri
Cancer Treatment
301-427-8125

RFP 273-79-P-0016

Title: Biochemical experimental services
Deadline: June 4

Proposals are being solicited from qualified sources having experience in and capability of performing experimental services needed for the study of the co-oxidation of various test chemicals by prostaglandin synthetase. This service is of a non-research and development nature since experimental protocols have already been developed.

Offerors must: 1) have publications which demonstrate experience in experimentation involving the oxidation of chemicals by enzyme systems in relation to the induction of cancer and/or toxicity by the chemical and the oxidation of chemicals by prostaglandin synthetase; 2) have trained personnel available for performance of biochemical experiments; 3) have adequate facilities and equipment for performing biochemical experiments involving radioactively labelled chemicals and carcinogens; 4) be able to assure the maintenance of the enzyme activity of microsomal preparations during transport between the laboratories of the National Institute of Environmental Health Sciences, Research Triangle Park, N.C., and the offeror's facilities.

Contract Specialist
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Procurement Office, OAM
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