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AGENCY FOR INTERNATIONAL DEVELOPMENT

UNITED STATES AID MISSION TO PERU

C/O AMERICAN EMBASSY

LIMA, 1 PERU

TELEPHONE 333200

CABLE: USAID/LIMA

May 12, 1989

Dr. Alberto Cazorla
Rector
Universidad Peruana Cayetano Heredia
Honorio Delgado 932
San Martín de Porres
Lima

Subject: UPCH - Characterization of the Active Principles, Mechanism of Action and Possible Mutagenic Activity of Wound Healing Plants;
Project No. 936-5542.02. AID/SCI Proposal No. 8.068.
Grant No. 936-5542-G-00-9218-00

Dear Dr. Cazorla:

Pursuant to the authority contained in the Foreign Assistance Act of 1961, as amended, the Agency for International Development (hereinafter referred to as "AID" or "Grantor") hereby grants to the Universidad Peruana Cayetano Heredia (hereinafter referred to as "UPCH" or "Grantee") the amount of US\$145,976 (the "Grant") to carry out a research project entitled, "Characterization of the Active Principles, Mechanism of Action and Possible Mutagenic Activity of Wound Healing Plants", as described in Attachment 1, the Schedule of this Grant, and Attachment 2, entitled Program Description.

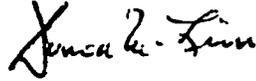
This Grant is effective, and obligation is made, as of the date of this letter and shall apply to commitments made by the Grantee in furtherance of program objectives during the period beginning with the effective date of the project and ending June 30, 1991. All reporting and financial liquidations are to be completed by that date.

This Grant is made to UPCH, on condition that the funds will be administered in accordance with the terms and conditions as set forth in Attachment 1, entitled the Schedule, Attachment 2, entitled Program Description, Attachment 3, entitled Mandatory Standard Provisions, and Attachment 4, entitled Optional Standard Provisions, which have been agreed to by your institution.

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Please sign all six (6) copies of this Agreement to acknowledge your acceptance of the Grant and the conditions herein established. Five copies should be returned to AID.

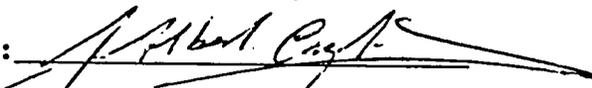
Sincerely,



Donor M. Lion
Director

ACKNOWLEDGED:

Universidad Peruana Cayetano Heredia:

By : 

Title : Rector of the University

Date : 5/12/89

ATTACHMENTS:

1. Schedule
2. Program Description
3. Mandatory Standard Provisions - For Non-U.S., NonGovernmental Grantees
4. Optional Standard Provisions - For Non-U.S., NonGovernmental Grantees

FISCAL DATA:

Appropriation	:72-1191021.6
Budget Plan Code	:DDSA-89-29527-KG11 (Allowance 946-51-527-00-19-91)
Project No.	:936-5542.02
Total Estimated Amount	:\$145,976
Total Obligated Amount	:\$145,976
Funding Source	:USAID/Peru

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SCHEDULE

A. Purpose of the Grant

The purpose of this Grant is to provide support for a research activity to be carried out by the Universidad Peruana Cayetano Heredia (UPCH). The activity, entitled "Characterization of the Active Principles, Mechanism of Action and Possible Mutagenic Activity of Wound Healing Plants", is more specifically described in Attachment 2 to this Grant entitled "Program Description."

B. The Grantee

The recipient institution for the Grant is UPCH. The Principal Investigator for project activities is Dr. Abraham J. Vaisberg, Ph.D., Professor of Microbiology, Department of Microbiology, Universidad Peruana Cayetano Heredia (UPCH).

C. Period of the Grant

The effective date of this Grant is the day of its signature. The expiration date of this Grant is June 30, 1991.

D. Approved Project Proposal

The approved Project Proposal consists of the original proposal submitted in August 1987 by Dr. Abraham J. Vaisberg of UPCH, as revised by AID/SCI's letter of November 20, 1987, approving the proposal, and the response thereto, as documented in the letter to AID/SCI from Dr. Vaisberg, dated January 6, 1988.

E. Amount of Grant and Payment

1. AID hereby obligates the amount of \$145,976 for purposes of this Grant. This represents the maximum total contribution of AID to the project. The Grantee assumes the responsibility to secure any additional resources that might be required to complete project objectives.

2. Payment shall be made to the Grantee in accordance with procedures set forth in Attachment 4, Optional Standard Provision 1, entitled "Payment-Periodic Advance" and in accordance with Section G, Financial Plan. Payment shall be made on a monthly basis and in no event no later than on a quarterly basis.

F. Required Accounting Records

Grantee hereby agrees to establish a separate banking account and to keep separate accounting records for the funds received under this Grant in accordance with, and as required by, Optional Standard Provision No. 1 of Attachment 4.

G. Financial Plan

The following constitutes the Grant Budget. It includes local cost financed items, as authorized, as well as some equipment and supplies to be purchased abroad, and in-country travel. Procurement of goods and services shall be implemented in accordance with Optional Standard Provisions 3, 4, 5, 6, 8, 18 of Attachment No. 4. Revisions to the Grant Budget shall be made in accordance with Mandatory Standard Provision No. 4 (see Attachment 3) entitled "Revision of Grant Budget." Transfers among AID financed categories in the Grant Budget in excess of 15% shall require the written approval of AID.

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FINANCIAL PLAN
(in U.S. Dollars)

	<u>GRANT BUDGET</u>		<u>Total AID</u>	<u>UPCH Contribution</u>
	<u>Year 1</u>	<u>Year 2</u>		
1. <u>Compensation (incl. Benefits)</u>			\$ 69,996	
a. One Principal Investigator (1) (35%)	\$ 8,712	\$ 8,712		
b. One Pharmacologist (1) (30%)	5,808	5,808		
c. One Chemist (1) (30%)	5,808	5,808		
d. One Botanist (1) (10%)	2,328	2,328		
e. Three Students (3) (80%)	8,712	8,712		
f. One Consultant (1)		300		
g. Two Laboratory Technicians (2) (50%)	3,480	3,480		
2. <u>Research Facilities</u>				\$28,500
3. <u>Equipment and Supplies</u> (incl. shipping)			\$ 53,000	\$30,400
a. U.S. Purchase	42,000*	7,000*		
b. Local Purchase	3,000	1,000		
4. <u>Bibliographic Material</u> U.S. Purchase	1,500*	1,500*	3,000	
5. <u>Travel</u> In-country	4,000	2,980	6,980	
6. <u>Indirect Costs</u> (services)	3,000	5,000	13,000	
GRAND TOTALS:	<u>\$93,348</u>	<u>\$52,628</u>	<u>\$145,976</u>	<u>\$58,900</u>

Summary

AID Contribution	\$ 145,976 (71.25%)
UPCH Contribution	58,900 (28.75%)
Total Project	\$ 204,876 (100%)

Notes:

1. See approved Project Proposal for more details on specific types of personnel included above, percentages of time they will provide to the project, commodities to be ordered, etc.
2. Starred (*) AID figures above represent U.S. Dollar costs, totalling \$52,000. All other remaining budget figures represent expected local currency cost items, totalling \$93,976.
3. Details on the UPCH contribution are in USAID project files.

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H. Reporting and Evaluation

1. Interim progress reports are required from the Principal Investigator every six months except for the last six month period, at the end of which, a final report is to be submitted. All reports will be given to the Chief of the Health and Nutrition Division, USAID/Lima, who shall be the AID Project Manager. Submission shall be in accordance with the time schedules indicated below. Five (5) copies of all Interim Progress Reports are to be provided to USAID/Peru, four copies of which will be transmitted to the following addressees: AID/SCI, Room 320 SA-18; Ms. Wendy White, BOSTID, National Academy of Sciences, 2101 Constitution Ave., N.W., Washington, D.C. 20418; AID Reference Center, PPC/CDIE/DI, Room 105 SA-18; and Technical Backstop Office, LAC/DR/HPN, Patricia Moser, Room 2247 N.S., Washington, D.C.

The objective of the Interim Progress Reports is to keep the AID Project Manager and AID/SCI informed that the research is proceeding in accordance with this Grant Agreement and to document any changes in the research plan or in key dates or benchmarks. The first Interim Report should report any revisions in key dates based on any revised research schedule and should request administrative changes which may be required in the project. All reports should place emphasis on announcing substantive scientific developments as they occur.

Interim Progress Reports should be submitted no later than 30 days following the periods ending December 31, 1989, June 30, 1990, and December 31, 1990. These and the Final Report, may be submitted in the Spanish language if accompanied by an adequate English language summary.

2. The Final Report will be prepared by the Principal Investigator, to be submitted by the Grantee to the USAID/Peru Project Manager for transmittal to AID/SCI. It must be submitted prior to June 30, 1991. Seven (7) copies shall be given to USAID, three (3) of which shall be transmitted to AID/SCI, one to the AID Reference Center and one to the Technical Backstop Office in Washington. The Final Report shall be sufficiently detailed to substantiate research findings and to permit a scientific evaluation of the research. The Principal Investigator is encouraged to share the draft report with the AID Project Manager for comment prior to final submission.

3. Quarterly financial reports, setting forth amounts of funds received, spent and liquidated in accordance with the Grant Budget and its budget categories, shall be submitted by the Grantee to the AID Project Manager in five (5) copies, three of which shall be forwarded promptly to AID/SCI.

4. Project Evaluation will be based on an analysis of the Final Report and other information deemed appropriate by the AID Project Manager. AID/SCI is prepared to assist in the analysis of the Final Report. The Evaluation is to be completed by the AID Project Manager within 90 days after the submission by the Grantee of the Final Report and is to be forwarded promptly to AID/SCI. AID/SCI will thereafter prepare the Project Completion Report, drawing upon the Project Evaluation and all other reports submitted by the Principal Investigator and Grantee.

I. AID/SCI Technical Backstopping

Upon request by USAID/Peru and under special circumstances, AID/SCI will arrange for Technical Backstop Officer, Patricia Moser, LAC/DR/HPN, Room 2247 N.S., Washington, D.C. to assist on technical issues, including assessment of interim and final reports. The AID/SCI Project Monitoring System will keep track of key action dates and remind the Grantee and USAID Project Manager 30 days in advance of when these actions fall due.

J. Special Provisions

1. The following Optional Standard Provisions apply to this Grant: Attachment 4, Sections 1, 3, 4, 5, 6, 8, 18 and 21.

2. The Grantee agrees that it will make the results of research supported under this Grant available to AID and that AID is authorized to use and disseminate this information as AID deems appropriate.

PROGRAM DESCRIPTION

The information presented below under Sections A and B is excerpted from the Approved Project Proposal.

A. Purpose and Nature of the Research

The aim of the research is to obtain conclusive evidence on whether the plants being studied accelerate the wound healing process or not and whether these extracts have mutagenic activity. For this purpose, the proposed study integrates botanical, chemical, pharmacological, and cytological approaches.

The research will involve the collection of plants from the following species: Muehlenbeckia tamnifolia, Mutisia acuminata, Peperomia flavamenta, Peperomia galioides, Mentzelia cordifolia, Eleutherine bulbosa, Himathantus sucuba and Spondias mombin. Extracts from the plants will be made following the methodology used by the local people. Then a pharmacological screening including the evaluation of the cicatrizant activity will be performed with these extracts. This information will allow the selection of the most active plants in terms of cicatrizant activity. Further studies on these plant extracts will include the isolation and characterization of their active principles, the investigation of their mechanism of action at the cellular level and the evaluation of their possible mutagenic activity.

At the present time, pharmacological preparations prescribed for the treatment of wounds in the process of cicatrization are either antiseptics, antibiotics or protective ointments. It is expected that the discovery and introduction of cicatrizant agents in the pharmacopeia that will result from this project will be of importance socially, medically and economically, because they will reduce the time of hospitalization and outpatient costs due to the acceleration of the healing process. Other developing countries would benefit from the use of these compounds and also from their extraction and commercialization since these plants exist in some of these countries too.

B. Specific Research Objectives

1. To study in animal models the cicatrizant activity of the different plant extracts in order to select the most active ones.
2. To characterize the active principles from the most active plants.
3. To determine the mechanisms of action of the active principles.
4. To demonstrate if the plant extracts and/or active principles of the most active plants have mutagenic activity.

C. Project Implementation and Responsibilities

This is a two year research project to be carried out in the laboratories of the Universidad Peruana Cayetano Heredia (UPCH). It does not involve any experimentation on humans. The project involves experimentation with laboratory animals, and ethical procedures will be provided before, during and after the experiments.

The Principal Investigator is Dr. Abraham J. Vaisberg, Professor of Microbiology of the UPCH, an experienced investigator in cell biology, who will devote 35% of his time to executing and supervising this project; other staff inputs include: 30% of the time of one of Dr. Vaisberg's colleagues in the Division of Pharmacology, Dr. Alfonso Zavaleta; 30% of the time of a chemist; 10% of the time of a botanist; 80% of the time of three students; and 50% of the time of two technicians. Also, Dr. Ramón Ferreyra, a prestigious botanist and Professor Emeritus of the Universidad Nacional Mayor de San Marcos in Lima will be a consultant in Botany, and, as in the past, he will assist in the identification of the medicinal plants.

The investigations to be carried out are complex and detailed and will not be described further herein. They are found in the Approved Project Proposal.

The AID Project Manager will be the Chief of the Health and Nutrition Division of USAID/Peru. He will receive and forward reports, make site visits, act in liaison between the research investigators and AID/SCI, and forward the Project Evaluation Report to AID/SCI. AID/SCI will provide, upon request of the AID Project Manager, backstopping support on technical issues, if required, including the assessment of reports, and will prepare the Project Completion Report.