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CONTRACT NO: DAMD17-92-C-2003

TITLE: CLINICAL RESEARCH OF HIV VACCINE STUDIES
ON CHIMPANZEES

PRINCIPAL INVESTIGATOR: Dr. Arthur W. Rowe
Dr. Elizabeth Muchmore

CONTRACTING ORGANIZATION: New York University Medical Center
Laboratory for Experimental Medicine
and Surgery in Primates (LEMSIP)
550 First Avenue
New York, New York 10016

REPORT DATE: February 16, 1994

TYPE OF REPORT: Annual/Final Report

PREPARED FOR: U.S. Army Medical Research, Development,
Acquisition and Logistics Command (Provisional),
Fort Detrick, Frederick, Maryland 21702-5012

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1. AGENCY USE ONLY (Leave blank)		2. REPORT DATE 16 February 1994		3. REPORT TYPE AND DATES COVERED Annual/Final (11/21/91 - 11/20/93)
4. TITLE AND SUBTITLE Clinical Research of HIV Vaccine Studies on Chimpanzees			5. FUNDING NUMBERS Contract No. DAMD17-92-C-2003	
6. AUTHOR(S) Dr. Arthur W. Rowe Dr. Elizabeth Muchmore			63105A 3M263105DH29.AD.042 WUDA335984	
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) New York University Medical Center Laboratory for Experimental Medicine and Surgery in Primates (LEMSIP) 550 First Avenue New York, New York 10016			8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING / MONITORING AGENCY NAME(S) AND ADDRESS(ES) U.S. Army Medical Research, Development, Acquisition and Logistics Command (Provisional), Fort Detrick Frederick, Maryland 21702-5012			10. SPONSORING / MONITORING AGENCY REPORT NUMBER	
11. SUPPLEMENTARY NOTES (Annual covers period of time 20 Nov 92 - 20 Nov 93)				
12a. DISTRIBUTION / AVAILABILITY STATEMENT Approved for public release; distribution unlimited			12b. DISTRIBUTION CODE	
13. ABSTRACT (Maximum 200 words) This contract involves clinical research of vaccine studies on Chimpanzees. Twelve chimpanzees housed in the LEMSIP facility are assigned to this project involving research on HIV vaccine efficacy. These animals are part of a "dynamic" pool whereby chimpanzees are used and replaced as needed and they do not represent the specific animals that will eventually be selected for vaccine study. Since the inception of the contract on 20 Nov 91, the available animals have not been subjected to any studies by the Department of Defense as outline in the contract proposal; hence there is no scientific progress to report regarding HIV vaccine evaluation.				
14. SUBJECT TERMS RA I, HIV, AIDS, Vaccine, Immune Response, Lab Animals, Chimpanzees			15. NUMBER OF PAGES	
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**ANNUAL REPORT
and
ANNUAL FINAL REPORT**

Contract No.: DAMD17-92-C-2003 **REPORT DATE:** 16 February 1994

Reporting Period: 20 Nov 1992 --20 Nov 1993 (Annual Report)
20 Nov 1991 --20 Nov 1993 (Annual Final Report)

Principal Investigators:

Dr. Elizabeth Muchmore	<u>Tel. No.</u> 914-351-5124
Dr. Arthur W. Rowe	914-351-2922

Institution:

New York University Medical Center, LEMSIP

Project Title:

CLINICAL RESEARCH OF HIV VACCINE STUDIES ON CHIMPANZEES

Current Staff, with Percent Effort of Each on Project:

Dr. Elizabeth Muchmore	10% (no charge to contract)
Dr. Arthur W. Rowe	20%

Contract Expenditures to Date:

Personnel:	\$102,227.15
Animal Care:	325,303.96
Travel:	4,717.42
Equipment:	55,750.00
Assignment Fee:	69,000.00
Research Service:	56,768.60

Total: \$613,767.13

See attached New York University Medical Center Financial Report Voucher
(Form 1034) for 1 Oct 93 to 20 Nov 93

Introduction

Vaccines including a whole virus vaccine and vaccines containing portions of the virus envelope proteins are being developed by Walter Reed Army Institute of Research (WRAIR) to protect human beings against human immunodeficiency virus (HIV) infection. LEMSIP has proposed to test the efficacy and safety of HIV-1 vaccine prototypes using chimpanzees, the only animal model available, prior to use in uninfected human volunteers. Twelve (12) adult chimpanzees would be divided into two (2) groups with each group containing four (4) test animals and two (2) control animals. In the first phase the test animals would be inoculated with different vaccines provided by WRAIR and the control animals would receive only adjuvant or placebo. LEMSIP proposed to house, maintain and conduct the inoculation experiments in chimpanzees and to provide biweekly blood samples for testing by WRAIR. In the second phase after immunization, the animals were to be challenged with an HIV-1 strain and monitored monthly by blood sampling for analyses. In the third and subsequent phases after challenge, the virus infected animals were to be used in chemotherapy or immunotherapy experiments designated by WRAIR and LEMSIP would continue to monitor by providing monthly blood samples for analyses. LEMSIP has considerable expertise in developing vaccines, e.g., hepatitis A, B, C (non A- non B) and most recently HIV, in chimpanzees. Based on this experience, the facilities and the animal care and professional and technical expertise, LEMSIP proposed further development and testing of the efficacy and safety of HIV vaccines and treatment in chimpanzees when such vaccines became available.

Scientific Progress for the Report Period of Nov 92-Nov 93 and Nov 91-Nov 93

This contract involves clinical research of vaccine studies on chimpanzees. Twelve chimpanzees housed in the LEMSIP facility are assigned to this project involving research on HIV vaccine efficacy. These animals are part of a "dynamic" pool whereby chimpanzees are used and replaced as needed and they do not represent the specific animals that will eventually be selected for vaccine study. Since the inception of the contract on 20 Nov 91, the available animals have not been subjected to any studies by the Department of Defence as outlined in the contract proposal; hence there is no scientific progress to report regarding HIV vaccine evaluation.

In December 1992 a site visit was made to LEMSIP by Col. Philip Zack, Contracting officer, Col. Nathaniel Powell, Animal Use Review Officer, Ms. Tish Nelson, Contracting Officer, and Dr. Mark Lewis of the Henry M. Jackson Foundation Research Laboratory in Rockville, MD. The purpose of the meeting was to inspect the facilities and to meet with LEMSIP faculty and staff prior to initiation of the anticipated studies. Col. Powell inspected IACUC committee reports and reviewed AALAC accreditation requirements with LEMSIP. Discussions were held regarding the options available for taking care of infected animals after the end of the study. Specific capabilities involving Flow Cytometry, PCR analysis and virus isolation were assessed to make plans for effecting future investigative research.

During the early part of 1993 plans and schedules were prepared for collecting blood samples from a random group of chimpanzees, not necessarily those to be used in future vaccine studies. The specific plan was to collect blood samples from the 12 randomized animals housed at LEMSIP in Tuxedo, New York, and ship for arrival *the same day* at Jackson Foundation Research Laboratories in Rockville, Maryland.

Specific instructions were subsequently received from Col. Philip Zack to initiate the pilot project to test the shipping and routine blood analysis system. Peripheral blood samples were to be obtained from twelve chimpanzees of LEMSIP's choice representing various ages and sexes. Specifics involved:

- a) LEMSIP performance of routine CBC with differential, reticulocyte count and platelet count;
- b) A routine clinical chemistry panel was to be performed by Maryland Medical Laboratories - (Serum was separated from clotted blood immediately after collection to minimize potential for hemolysis and any effect on blood glucose);
- c) Shipment of heparinized whole blood to be made to Dr. Mark Lewis at the Henry M. Jackson Foundation Research Laboratories in Rockville, Maryland.

Based on this special request for blood from twelve chimpanzees to establish baselines for future HIV studies, twelve animals of random ages and sexes were selected from our "dynamic" pool of animals but were not necessarily those held in reserve for eventual vaccine testing and study.

Samples of blood were collected early in the morning from the twelve anesthetized chimpanzees housed at LEMSIP in Tuxedo, New York. The samples were then transported immediately by courier to Newark Airport where they were placed on an air carrier (Continental) to Baltimore Airport where arrangements for pickup and delivery were made by Maryland Medical Laboratories. Samples consisting of 2 ml. serum and 2 ml. EDTA blood were sent to Maryland Medical Laboratories for Clinical Profile #58, and 10 ml. heparinized whole blood were sent to Dr. Mark Lewis of the H. M. Jackson Research Foundation in Rockville, MD. All samples arrived in the afternoon of the same day of collection. Results of the blood analyses by Maryland Medical Laboratories have not been reported to LEMSIP.

Collection of blood samples from the twelve chimpanzees at LEMSIP in Tuxedo NY and their same day shipment to Rockville, MD was coordinated and effected with ease and efficiency. This exercise clearly demonstrates the feasibility of using the LEMSIP facilities for the anticipated studies on testing the clinical efficacy of HIV vaccines,

PLANS FOR THE NEXT REPORT PERIOD and CONCLUSION

Based on this successful exercise, plans were made for repeating the collection of blood from twelve different randomized chimpanzees for shipment to the Rockville laboratories. Since reliable sample delivery was established, we anticipated initiation by Department of Defence scientists of HIV vaccine inoculation experiments involving the available LEMSIP chimpanzees. We have subsequently been informed that the contract has expired on 20 Nov 93. We are ready to reinstate these studies at any time in the future when the Department of Defence is ready to evaluate the clinical efficacy of HIV vaccines in chimpanzees.

ZACK SPECIAL REQUEST CHIMPANZEES

28 APRIL 93

ANIMAL NO-NAME	YOB yr	SEX	WT kg	ARRIVED		RESEARCH EXPOSURE		HEPATITIS STATUS		
				Date	From	Date	Study	HBV	HAV	HCV
CH-272 ANNE	1962	F	41	1976	San Diego Zoo		Hepatitis B vaccine safety test AI breeder	Negative	anti-HAV+	Negative
CH-291 COCHISE	1974	M	67	1978	Primate Found'n of Arizona	1979	NANBH putative inoculum	Negative		
						1984	Anti-thrombin III for HBV removal	anti-HBs+ anti-HBc+		
						1992	Pharmacokinetics		Negative	Negative
CH-348 MINKY	1970	F	51	1981	Private owner		None; Breeder	anti-HBs+ anti-HBc+	anti-HAV+	anti-HCV-
CH-381 ONAN	1972	M	59	1982	U. OKLA.	1984	Plasma product safety test for HCV & HBV removal	anti-HBs+ anti-HBc+	anti-HAV-	anti-HCV-
						1985	Booster immunizations for anti-HBs harvest			
						1986	125-I, 51-Cr tagged MAb and immune complexes			
						1987 1988	Japanese NANBH inoculum CH-125 NANBH challenge			
CH-407 SPUD	1982	M	58	1982	Born at LEMSIP	1986 1988	Factor IX HBV removal IV Human globulin	Negative	Negative	Negative
						1990	Human CD4 Immunization			
CH-417 BOY	1969	M	56	1982	U.TX Rsch Pk Bastrop, TX	1976	Splenectomy for malaria <i>Plasmodium falciparum</i> infected and Rx'd	anti-HBs+ anti-HBc+	anti-HAV+	anti-HCV- now
						1982	Plasma product safety test for HCV & HBV removal			
						1985	P.vivax infected & Rx'd			
CH-420 IDA	1982	F	46	1983	Southwest Foundation	1985	Hepatitis B vaccine test	anti-HBs+ anti-HBc+		
						1988	HAV infectivity		anti-HAV+	
						1989	HCV infectivity removal Positive control. Infected			anti-HCV negative now
CH-424 MIMITOO	1982	F	38	1983	Southwest Foundation	1985	Hepatitis B vaccine Efficacy	anti-HBs+ anti-HBc+		
						1988	HAV ISG prophylaxis		anti-HAV+	
						1989	HCV infectivity removal test Was infected			anti-HCV negative now

ZACK SPECIAL REQUEST CHIMPANZEES

28 APRIL 93

ANIMAL NO-NAME	YOB yr	SEX	WT kg	ARRIVED		RESEARCH EXPOSURE		HEPATITIS STATUS		
				Date	From	Date	Study	HBV	HAV	HCV
CH-556 FENEE	1988	F	25	1988	Born at LEMSIP	1992	Rhinovirus	Negative	Negative	Negative
CH-554 AMANDA	1987	F	26	1987	Born at LEMSIP	1990	Hepatitis B Vaccine Efficacy	anti-HBs+	Negative	Negative
CH-560 PETRA	1988	F	25	1988	Born at LEMSIP		NONE	Negative	Negative	anti-HCV-
CH-568 GINA-M	19	F	54	1988	Merck	??	HBV and HAV at Merck	anti-HBs+ anti-HBc+	anti-HAV+	anti-HCV±

Dept 12

Standard Form 1034 Revised January 1980 Department of the Treasury IFORM 4-2000 1034-118		PUBLIC VOUCHER FOR PURCHASES AND SERVICES OTHER THAN PERSONAL				VOUCHER NO (Interim) 12	
U.S. DEPARTMENT, BUREAU, OR ESTABLISHMENT AND LOCATION Administrative Contracting Office Office of Naval Research (N62927) Resident Representative 33 Third Avenue - Lower Level New York, NY 10003-9998				DATE VOUCHER PREPARED January 11, 1994		SCHEDULE NO.	
				CONTRACT NUMBER AND DATE DAMD 17-92-C-2003		PAID BY	
				REQUISITION NUMBER AND DATE			
PAYEE'S NAME AND ADDRESS New York University Medical Center 550 First Avenue New York, NY 10016				DATE INVOICE RECEIVED			
				DISCOUNT TERMS			
				PAYEE'S ACCOUNT NUMBER 60-1-8306			
				GOVERNMENT B/L NUMBER			
SHIPPED FROM		TO		WEIGHT			
NUMBER AND DATE OF ORDER	DATE OF DELIVERY OR SERVICE	ARTICLES OR SERVICES (Enter description, item number of contract of Federal supply schedule, and other information deemed necessary)		QUANTITY	UNIT PRICE COST PER		AMOUNT
October 1, 1993 to November 20, 1993		For details, see attached page Cost Reimbursable-Provisional Payment "I certify that all payments requested are for appropriate purposes and in accordance with the agreements set forth in the application and award documents." <i>Anthony Marsicano 2/5/94</i> Anthony Marsicano, Assistant Controller					\$32,880.32
(Use continuation sheet(s) if necessary) (Payee must NOT use the space below)							TOTAL \$32,880.32
PAYMENT: ☐ PROVISIONAL ☐ COMPLETE ☐ PARTIAL ☐ FINAL ☐ PROGRESS ☐ ADVANCE		APPROVED FOR = \$		EXCHANGE RATE = \$1.00	DIFFERENCES		
		BY :					
		TITLE		(Signature or initials)			
Pursuant to authority vested in me, I certify that this voucher is correct and proper for payment.							
(Date)		(Authorized Certifying Officer) ²			(Title)		
ACCOUNTING CLASSIFICATION							
CHECK NUMBER		ON ACCOUNT OF U.S. TREASURY		CHECK NUMBER		ON (Name of bank)	
ASH		DATE		PAYEE ³			
If stated in foreign currency, insert name of currency. Ability to certify and authority to approve are combined in one person, one signature only is necessary. If the approving officer will sign in the space provided, over his official title. If the voucher is receipted in the name of a company or corporation, the name of the person writing the company name, as well as the capacity in which he signs, must appear. For example: "John Doe Company, per John Doe, Secretary", or "Treasurer", as the case may be.						PER	
						TITLE	

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The information requested on this form is required under the provisions of 31 U.S.C. 82b and 82c, for the purpose of disbursing Federal money. The information requested is to identify the particular creditor and the amounts to be paid. Failure to furnish this information will hinder discharge of the payment obligation.

Standard Form 1035 SEPTEMBER 1973 4 TREASURY FORM 2000 1035-113		PUBLIC VOUCHER FOR PURCHASES AND SERVICES OTHER THAN PERSONAL				VOUCHER NO 12 (Inter SCHEDULE NO.	
CONTINUATION SHEET 60-1-8306						SHEET NO.	
U.S. DEPARTMENT, BUREAU, OR ESTABLISHMENT U.S. Army Medical Research Acquisition							
NUMBER AND DATE OF ORDER	DATE OF DELIVERY OR SERVICE	ARTICLES OR SERVICES (Enter description, item number of contract or Federal supply schedule, and other information deemed necessary)	QUAN- TITY	UNIT PRICE		AMOUNT	
				COST	PER		
NYU Medical Center 550 First Avenue New York, NY 10016		Contract No. DAMD17-92-C-2003 Target/Estimated Cost				\$1,178,862.00	
		<u>Analysis of Claimed Current and Cumulative Costs and Fees Earned</u>					
					Amount for Current Period Billed	Cumulative Amt from Inception to Date of this Billing	
		<u>Major Cost Elements</u>					
		Salaries	\$ 5	739	50	\$81,213.69	
		Fringe Benefits	1	612	80	21,013.46	
		Animal Care		-0-		325,303.96	
		Travel		252	42	4,717.42	
		Equipment		-0-		55,750.00	
		Assignment Fee		-0-		69,000.00	
Research Service	25	275	60	56,768.60			
Total Cost			\$32	880	32	\$613,767.13 =====	

DISTRIBUTION

This report is being sent to:

- Office of Naval Research, NY (2 copies)
- Commander, US Army Medical Research and Development Command,
Fort Detrick, MD. (6 copies)

Report Prepared by: _____



Arthur W. Rowe, Ph.D.
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