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19. ABSTRACT (Continue on reverse if necessary and identify by block number) Equipment was purchased for research service facilities of the Biotechnology Program. These facilities are used by laboratories at Cornell, other educational institutions, industry and other research institutes. Facilities of the Program include: amino acid analysis/peptide sequencing and synthesis/oligonucleotide synthesis; flow cytometry and video microscopy; plant tissue culture/plant transformation; fermentation; computer/molecular graphics; electron microscopy; and cell hybridization/monoclonal antibody. Users are assured of rapid, efficient service with reliable results, at a nominal cost and without duplication of personnel and equipment.					
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CENTER OF EXCELLENCE IN BIOTECHNOLOGY

FINAL REPORT
prepared by
Richard E. McCarty
Director, Biotechnology Program

9 December 1988

U. S. Army Research Office
Project No. P-24630-LS-VIE
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Cornell University
Ithaca, New York 14853

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The intent of this equipment grant was to help establish the Biotechnology Program service facilities. The equipment is on order for/or is currently being used in the following facilities: Amino Acid Analysis/Peptide Sequencing and Synthesis/Oligonucleotide Synthesis; Flow Cytometry and Video Microscopy; Plant Tissue Culture/Plant Transformation; Fermentation; Computer/Molecular Graphics; Electron Microscopy; and Cell Hybridization/Monoclonal Antibody. At the present time the oligonucleotide, amino acid, peptide sequencing facility is still operating out of space in S.T. Olin Laboratory and the electron microscope facility is operating out of Wing Hall, both on Cornell Campus. During January-February 1989, these facilities will move to space designed for them in the new biotechnology building. As soon as the fermenter is received from the manufacturer it will be placed in designed space in the new building. The facilities for flow cytometry and video microscopy are already in operation in the building and the monoclonal facility is in the process of being moved. By the end of March 1989, all facilities will again be in full operation in the new building.

These facilities are used by numerous research laboratories across the Cornell University campus, both Ithaca and Geneva. In addition, other educational institutions (for example, University of Michigan, University of Wisconsin, University of Rochester, Rockefeller University); industries (Miller Brewing, General Foods, Texaco) and research institutes like the Guthrie Clinic, Pennsylvania, make routine use of the services provided. The facilities are staffed with highly skilled technicians provided by the Biotechnology Program. User fees are charged for expendable supplies and maintenance of equipment. Researchers are assured of rapid, efficient service with reliable results, at a nominal cost and without duplication of personnel and equipment.

The following list of equipment purchased under this grant is grouped according to the facility served. General equipment is that placed in a central equipment room and is used by all facilities as needed.

GENERAL EQUIPMENT

Ultracentrifuge, Model L8	Beckman Instruments	\$ 26,228
Centrifuge, Model J2-21M	Beckman Instruments	\$ 13,104
Rotors:70Ti,SW28,TI14,JA20, JA14,JA10, & Accessories	Beckman Instruments	\$ 29,422
Liquid Scintillation Counter	Beckman Instruments	\$ 15,531
Sample Changer	Beckman Instruments	\$ 1,501
Revco -80 Freezer	Baxter Scientific	\$ 4,401

P3 FACILITY

Centrifuge, J2-21M	Beckman Instruments	\$ 13,104
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FERMENTER

Fermenter IF-75 with celligen mammalian cell culture system	New Brunswick	\$106,695
Compressor	Tri-Line	\$ 2,538
Motorized french press	SLM Aminco	\$ 8,786

VIDEO MICROSCOPY

Fluorescence Imaging System, Video camera & accessories	Tracor Northern	\$126,537
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FLOW CYTOMETRY

Spectrofluorometer	SLM Instruments	\$ 43,113
IBM PS2 Model 30 Computer	Cornell Computing Serv	\$ 1,994
Analyzer, Epics 753		
Cell Sorter, Profile		
Lens Assembly, & Software	Epics Division, Coulter	\$251,995
Microvax II Computer	Digital Equipment	\$ 54,807

COMPUTER

Microvax II Computer	Digital Equipment	\$ 50,880
Plotter & Stand HP7550	Hewlett-Packard	\$ 2,827
Printer & Stand (Laserwriter)	Hewlett-Packard/Cornell	\$ 3,545

MONOCLONAL ANTIBODY

Centrifuge, J6-M	Beckman Instruments	\$ 12,342
Rotor, JS-4.2	Beckman Instruments	\$ 3,042
Revco -80 Freezer	Baxter Scientific	\$ 4,108
Incubators, Forma (2)	Eastern Scientific	\$ 11,190
Laminar Flow Hood, Baker (3)	Harvey Instruments	\$ 13,809
Microfuge, Eppendorf	Baxter Scientific	\$ 1,315

OLIGONUCLEOTIDE, PROTEIN SEQUENCING, AMINO ACID

Amino Acid Analyzer	Applied Biosystems	\$ 31,090
Speed Vac Concentrator	Savant Instruments	\$ 4,187
Fraction Collector	ISCO	\$ 1,327
Recorder, Series 5000	Fisher Scientific	\$ 1,868
Peptide Synthesizer	Waters	\$ 75,075
MilliQ Water System	Millipore Water	\$ 2,338
Microfuge, Eppendorf	Baxter Scientific	\$ 1,314
Spectrophotometer Plus C	Hewlett-Packard	\$ 10,438
Phase system Electrophoresis	Pharmacia LKB	\$ 6,758

ELECTRON MICROSCOPY		
Vacuum Coating System	Balzers	\$ 24,999
Critical Point Drying Apparatus		
Pumping System Upgrade	Philips Electronic	
& Grid Holder	Tousimis Res Corp	\$ 12,905
Freeze Etch, Cryo Apparatus	Balzers	\$ 8,445
Leitz Diaplan Microscope	Upstate Technologies	\$ 16,442
TOTAL ARO EQUIPMENT		\$1,000,000

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