

GEORGIA INSTITUTE OF TECHNOLOGY
OFFICE OF CONTRACT ADMINISTRATION
SPONSORED PROJECT INITIATION

Date: 10/24/79

Project Title: Interaction of RNA Polymerase with DNA Sites

Project No: G-41-D01 (Sub-project is G-32-D01/Wartell/Biology)

Project Director: Dr. Roger M. Wartell

Sponsor: DHEW/PHS/NIH - National Institute of Allergy and Infectious Diseases

Agreement Period: From 7/1/79 Until 6/30/80 (Grant Period)

Type Agreement: Grant No. 1 K04 AI00332-01

Amount: \$24,198 G-41-D01
8,802 G-32-D01
\$33,000 Total

Reports Required: Annual Progress Report with Continuation Applications
Terminal Progress Report upon Grant expiration

Sponsor Contact Person (s):

Technical Matters

Contractual Matters
(thru OCA)

Program Official

PHS Grants Management Official/Contact

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Defense Priority Rating: N/A

Assigned to: Physics (Biology) (School/Laboratory)

COPIES TO:

Project Director
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School/Laboratory Director
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Project Code (GTRI)
Other OCA Research Property Coordinator

GEORGIA INSTITUTE OF TECHNOLOGY
OFFICE OF CONTRACT ADMINISTRATION
SPONSORED PROJECT TERMINATION

Date: 2/2/81

Project Title: Interaction of RNA Polymerase with DNA Sites
Project No: G-41-D01 (Sub-project is G-32-D01/Wartell/Biology)
Project Director: Dr. Roger M. Wartell
Sponsor: DHEW/PHS/NIH - National Institute of Allergy and Infectious Diseases

Effective Termination Date: 6/30/80

Clearance of Accounting Charges: 6/30/80 (01 year)

Grant/Contract Closeout Actions Remaining:

- Final Invoice and Closing Documents
- Final Fiscal Report
- Final Report of Inventions - Interim
- Govt. Property Inventory & Related Certificate
- Classified Material Certificate
- Other _____

Assigned to: Physics (School/Laboratory)

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Project Code (OCA)

PROGRESS REPORT		GRANT NUMBER 5 K04 A01 00332-02	
		ACCOMPLISHMENTS COVERING PERIOD	
NAME OF HEAD OF DEPARTMENT OR DEPARTMENTAL SUBDIVISION David Finkelstein		FROM 7/1/79	THROUGH 6/30/80
NAME OF AWARDEE Roger M. Wartell			
INSTITUTION Georgia Institute of Technology			
TITLE OF RESEARCH PROPOSAL (REPEAT TITLE SHOWN ON PAGE 1) Interaction of RNA Polymerase with DNA Sites.			
STATEMENT OF ACCOMPLISHMENT (IF SPACE IS INADEQUATE, USE CONTINUATION PAGE)			
<p>Dr. Wartell spent part of the past year at the University of Wisconsin. During this time he developed a general method for cloning DNA restriction endonuclease fragments with protruding single stranded ends. This method was successfully applied to the cloning of two DNA fragments, 144 base pairs (bp.) and 64 base pairs long, which are all or part of the transcription initiation region of the lactose operon of Escherichia coli bacteria. The cloning procedure regenerates restriction endonuclease sites around the desired fragment which are unique to the plasmid-vector. This facilitates subsequent isolation of the fragments. Details of this work are to be published (see below). Physicochemical studies on the purified 144 bp. DNA which was cloned are currently in progress. Raman spectroscopy studies are examining the conformation of this gene expression control region. Also, the temperature induced unwinding transition of the 144 bp DNA has been measured by absorption spectroscopy. A comparison of the experimental transition of this DNA with a theoretical model of the transition has enabled the development of an accurate theoretical model of base pair opening of DNA fragments.</p> <p><u>Publications</u> "Cloning DNA Restriction Endonuclease Fragments With Protruding Single Stranded Ends" by R. M. Wartell and W. S. Reznikoff <u>Gene</u> in press.</p> <p>Dr. Wartell has taught a genetics course in the School of Biology during this past winter quarter. He will be teaching a course during this spring quarter in Physics. In addition he has served on a number of departmental committees, and has initiated an interdepartmental seminar program in molecular biology and biophysics. He has been asked to lecture at several neighboring institutions as well.</p>			