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STANFORD UNIVERSITY
MEDICAL CENTER
PALO ALTO, CALIFORNIA

DEPARTMENT OF GENETICS
School of Medicine

April 5, 1962

Zinder

Dr. R.E. Kallio

Dr. R.E. Kallio
Department of Bacteriology
State University of Iowa
Iowa City, Iowa

Dear Dr. Kallio:

Enclosed is a summary on Dr. Zinder as requested in your letter of 26 March. I am very happy to prepare this, but I hope you will do me the favor of not directly attributing the text to me. For this reason I am sending it to you rather than directly to Mr. Tretbar as you requested.

Yours sincerely,

Joshua Lederberg
Professor of Genetics

Right-o! Will comply with your wishes. Many thanks RE Kallio.

Dr. Norton Zinder has made a number of outstanding contributions to genetic microbiology. At the outset of his career, as his dissertation research, he collaborated in the discovery of genetic transduction in Salmonella. Then a novel and unexpected process, this is the association of genetic fragments with a bacterial virus. The virus, while infecting a new host cell also carried information on the genes of the cell it had just come from. This discovery has played an important part in further understanding of the biology of viruses, and is also an indispensible technique for analyzing the genetics of bacteria.

Dr. Zinder's research interests have remained in the most fundamental aspects of the relationship of viruses to cells and their genes. He has studied the mechanism of radiation damage to bacteriophage finding that some genes of the bacterial host are indispensible in the repair of this damage to the virus. Another aspect of the interrelationship of viruses to host genes is seen in his studies on the transduction of markers from interspecific hybrids between Escherichia coli and Salmonella. For the most part a Salmonella phage when grown on such a hybrid, could transduce only the Salmonella genes and not the E. coli genes to a new Salmonella host.

In his most recent work, Dr. Zinder has succeeded in isolating and identifying viruses which are sex-specific, that is, will attack preferentially male or female strains of bacteria, respectively. Of the greatest interest is his recent finding that one of these viruses, unlike all other bacterial viruses so far analyzed, is composed of RNA rather than DNA. This discovery lays the basis for a detailed comparison of the two forms of nucleic acids as agents of biological replication.