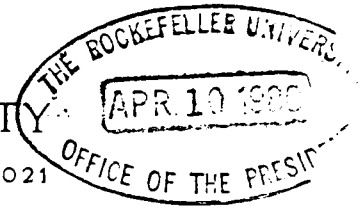




THE ROCKEFELLER UNIVERSITY  
1230 YORK AVENUE · NEW YORK, NEW YORK 10021



April 9, 1980

Dr. Joshua Lederberg, President  
The Rockefeller University

MAY - 8 1991  
*I can reverse some of the ~~work~~ of my  
element, result ~~problem~~ in this  
~~depression~~ Josh.*

Dear Josh,

In answer to your Memo of April 8th, there are many indications that carcinogens preferentially damage DNA in the extended state, as in the spacer regions between nucleosomes. Some of the evidence for this is summarized briefly in a recent review (copy enclosed: pp. 523-526). There is good evidence that the transcriptionally active regions of chromatin in eukaryotic cells exist in an extended configuration, and are therefore more prone to damage by alkylating carcinogens. This is especially true for the ribosomal genes, in which the DNA is nearly fully extended; the work of Fahmy and Fahmy (reprint enclosed) shows the rDNA to be especially vulnerable to a variety of carcinogens. There is some disagreement among workers in the field on the changes in distribution of DNA damage as a function of time after exposure to the carcinogen, but many workers have observed the type of initial distribution described, for example, by Jahn and Litman (reprint enclosed). It gets more complicated when one analyzes DNA repair processes and must consider distributions of endonucleases, repair enzymes and poly-ADP-ribosylated proteins (which appear to act as signals for repair) in different regions of the chromatin.

*Lederberg's  
JUN - 9 1982*

With warm regards,

Vince

Vincent G. Allfrey

*Thank you.  
This was very  
helpful.*

