

STANFORD UNIVERSITY SCHOOL OF MEDICINE
STANFORD MEDICAL CENTER
300 PASTEUR DRIVE, PALO ALTO, CALIFORNIA

DEPARTMENT OF GENETICS
Professor Joshua Lederberg

June 15, 1969

Dear Ev:

I am glad to hear that you are looking into chlorine mutagenesis, and are as surprised as I am that this has been totally overlooked.

We have been (that is to say, Howard Eisenstark, one of my graduate students has been) looking into this also, in *B. subtilis*, with capricious, but probably positive results so far. Even straight bactericide is surprisingly variable from run to run, and we have^{to} clean that up before we can be quite sure. It is clear that radiation-resistance among various strains is correlated with chlorine-resistance.

From a policy standpoint, the important question is residual biological activity of the chloramines that are produced by the interaction of hypochlorite with most nitrogenous compounds. These are very variable in stability, and not much is known about them; so Bert Halpern is doing a fairly thorough groundwork study on their chemistry. DNA probably forms N-chloro as well as 5-C-chloro derivatives quite readily with hypochlorite, and theoretically should do the same at lower rates with chloramine; but this still has to be established.

Marguerite is sorry that our change of plans will keep her from seeing you this trip; but I will enjoy seeing Hi myself, in Washington on Thursday-Friday. We will have to postpone a night out together; which was much fun the last time.

All the best



Lt. JOSEPH P. KENNEDY, JR. LABORATORIES FOR MOLECULAR MEDICINE
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