

August 8, 1951.

Dr. H. P. Treffers,  
Yale University,  
New Haven, Conn.

Dear Pete:

Some time ago, you mentioned in a letter that strain 58-278 showed an unusually high rate of mutation to  $S^R$ . I recently had occasion to use this information in experiments adding further proof to the evidence that resistance mutations occur independently of the selective environment. May I acknowledge the source of this information as a private communication from yourself in the paper Esther and I are writing?

The experiments use velvet to make replicas of the growth on plain agar to a series of streptomycin agar plates. Starting with an inoculum from plain broth, heavily spread on plain agar, and incubated a few hours, we find that the  $S^R$  mutants on replica plates are largely superimposable, showing prior growth of clones. Furthermore, by using the congruent sites on plain agar for fresh inocula, we enrich for  $S^R$ , and in a few such indirect selections obtain  $S^R$  mutants in pure culture from populations never in contact with streptomycin. We finally succeeded in getting one clone from W-1; 58-278 was of course, much easier. Do you have any further information of the genetics of the high mutability?

With best regards,

Joshua Lederberg,  
Associate Professor of Genetics