UNIVERSITY OF CALIFORNIA

EPARTMENT OF BACTERIOLOGY

Address Reply to:
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NAVAL SUPPLY CENTER
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8 November 1950

Dear Joshua,

I had refrained from writing earlier because little had happened in the research. At last, something can be discussed.

The problem of dissociation in my bug has taken almost all my time. The dissociation story presented by Werner Braun is certainly not as simple and straightforward as it would seem. He has made certain assumptions which while valid are not always applicable. In Brucella, the correlation between virulence and smoothness as well as the one between avirulence and roughness will not hold in my bug. The changes in liquid suspensions from virulence to avirulence can be followed by watching the changes from smoothness to roughness, populationwise. However, with my bug the dissociation from virulence to avirulence is not correlated with the dissociation from smoothness to roughness. It is possible for a stored suspension of my bug to go completely avirulent with only smooth cells (smooth and rough always refer here to colony morphology and not antigenic structure) being present. I am now casting about for quick methods for determining antigenicity. To date, we are trying acriflavine and salt stability. It appaars that our current results may solve that problem. But any other methods (aside from safranin and basic fuchsin agglutinability) for doing the same job will be greatly appreciated.

We now have a medium (solid) for detecting dissociants on the basis of colonial morphology. Since our bug appears to be so damned stable in storage as far as the S to R dissociation is concerned, the next job was to induce dissociation. This problem now seems to be licked. We are using filtrates but the million variables involved will have to be checked. Adding filtrate to the liquid medium before inoculation seems to do the trick.

Since sulfa therapy is important, I am checking the genetics of sulfa resistance. Even here with a straightforward technique adapted from the Luxx Oakberg-Luria work, our bug behaves peculiarly. This story is taking shape but the picture is too nebulous for discussion at this date. One thing is sure: any genetic work on my bug will not be simple.

Dr. Krueger has approached me to give your course at Cal. He figures I took your course and can regurgitate. Should you have available any mimeographed material for distribution to your classes, I would certainly appreciate getting a complete set.

Again, let me thank you for the stimulus both from you personally and from your course. I owe you a debt of gratitude on setting me straight in this bacterial genetics business.

my best to your wife.

Ed Garber