

December 8, 1953

Miss Ethelyn R. Lively
Department of Bacteriology
University of Illinois
Urbana, Illinois

Dear Ethelyn:

Thank you very much for the resume that you sent up with Seymour. It was quite clear and very helpful indeed in enabling me to understand the details of your experiments. Unfortunately, as you suggest, none of them is entirely decisive to the crucial point immediately at issue now, especially as there is no explicit statement concerning the streptomycin character of some of the single-cell isolates. I was able to find the vials in which you had left the three isolates recorded as having been stored but unfortunately they were no longer viable. At any rate, it was not these cultures which were likely to have been of the greatest immediate use.

During the past few weeks I have been developing an alternative technique for the isolation of single-cell clones for this study. There is nothing startlingly new about it but you may be interested in how it is handled. It is just a matter of placing small droplets of diluted cultures in order on a glass slide which has previously been coated with a layer of mineral oil. (Are you using an oil chamber technique at the present time?) The oil, of course, prevents the evaporation of the droplets and permits them to be examined at leisure for the number of cells which they contain. Those droplets containing precisely one cell are marked, additional broth is added to them, and these larger drops are then incubated until the cell has given rise to a substantial clone. This can then readily be picked under the dissecting microscope with a small capillary pipette. As you see, the technique requires no micromanipulation and does in fact permit the rather facile isolation of large numbers of single cells. I have not yet, however, been lucky enough to obtain a zygote cell in my manipulations but this is probably only a matter of time.

A Dr. S. Rubbo has just come to visit the laboratory for a short period of time and at least while he is here we may be doing be a little bit of work on yeast ourselves. I do hope that you will sometime be able to realize my invitation to go over and re-summarize some of your older accumulated data at some future visit to Madison.

Meanwhile, best wishes and

Yours sincerely,

Joshua Lederberg

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