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Dear Professor Lederberg:

I have received your letter of November 9 for which I have been waiting and am exceedingly grateful. I would like to thank you profoundly for your courtesy.

As to 2) and 3) after discussion of VIII, page 11, that you have pointed out in your last letter, the experiments have not come to a final conclusion as yet and I would like to add some further experiments. We have found that rough variant cells of E_2 group are still lysogenized but not altered antigenically. Phages obtained from rough cells of E_2 group are also capable of inducing antigenic variation from 3,10 to 3,15 in E_1 group cells. This indicates that the lysogenic state is not always associated with the formation of 15 antigenic factor, but it is still true that the phages have something to do with the formation of 15 factor.

"A small number" means about 17 phage particles.
"Several" means 7 serial passages.
With regards to page 18-19, 15), I respect your opinion.

I would also express my appreciation for your kind invitation to become a member of the Society. I would be very happy to become a regular member and I can send the due for the year 1955, if you would kindly send me a 'bill', which would make things easy for me. I would be able to grounds to ask for the 12 dollars.

I have made a series of experiments to compare "our phenomenon" with your "transduction". Streptomycin-resistant cells were derived from E_2 group strains and bacteriophages were obtained from these SM-resistant cells. When E_1 group cells were exposed to the phages, two types of SM-resistant variant were obtained; SM-resistant and antigenically altered cells, and SM-resistant (but antigenically not altered) cells. The former were found lysogenic while the latter not lysogenic. And the latter were further converted antigenically from 3,10 to 3,15 by phages obtained from SM-sensitive cells of E_2 group. The same phenomena were also observed when we used phages which were obtained from SM-sensitive cells of E_2 group and were propagated on SM-resistant cells of E_1 group (donor cells). Both types of SM-resistant variant occurred at a rate of about one per 10^7 (10^{6}-10^{8}) cells exposed to the phages. This rate is very much lower than that of antigenic variation by phage, and is similar to that of transduction. These and other data indicate that induction of SM-resistance is due to transduction. The above seems to be 'clear-cut' which indicated that the two phenomena are not identical.

lysogenic but we have not isolated as yet a smooth cell

ここにも通信文を記載することができます This space is also for correspondence.

I wish to write on the above in another manuscript and I would appreciate it if you would approve.

Yours sincerely,

Hisao Uetake

Hisao Uetake
Professor of Microbiology

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