

December 23, 1955

Dear Dr. Barricelli

Thank you for your note suggesting certain experiments. However, I have to tell you that there is a misunderstanding concerning the output of crosses 1 and 2, which you quote from our 1953 paper, (our crosses # 7 and 8). At this point in our discussion, we did not distinguish the different immune phenotypes: the term "parental" means, simply, the reactions to lambda. It would not be possible to distinguish the phenotypes of $Lp_1^+ Lp_2^s$ and $Lp_1^+ Lp_2^r$, except by testing the lysogenics with lambda-2. This was actually done, and I can assure you that all the combinations are found. The detection of the various genotypes has been greatly facilitated by my wife's more recent finding that Mal_1 and Lp_2 are the same locus. (See enclosure). The same type of classification has been applied to cross 8, and again all the combinations have been found. Some of the crosses have been made with Hfr x F- to preclude the possibility of interfering F+ infection during the cross.

If you would like to verify these points for yourself, I will be happy to send you the necessary stocks.

Similarly, normal segregation for Gal is found regardless of whether the F- parent (in crosses of Hfr x F- as well as Hfr F+ x F-) is Lp_2^s or Lp_2^r .

Jacob and Wollman, using a stock of Hfr which has somewhat different properties have found that, in the cross Hfr Lp^+ x F- Lp^s , most of the zygotes are lost by the syngamic induction of the Lp^+ prophage. This is also associated with the alteration of Gal segregation. However, this effect is independent of ~~the~~ whether or not the F- parent is immune-2 or not. ~~xxxx~~ With our stocks, the polarity for Lp has little or no effect on Gal segregation, and the Lp_2 mutation has none.

As I have indicated earlier, I do not see why you should stress the applicability of your genophore hypothesis to K-12 crossing, when it is so well exemplified by transduction. On the other hand, the K-12 sexuality is so sharply different from transduction that I am reluctant to see the two confused with one another.

With best wishes of the season,

Yours sincerely,

Joshua Lederberg
Professor of Genetics

Dr. Nils Barricelli
Riisbakken 15
Oslo, Norway