

LABORATOIRE DE BIOPHYSIQUE  
INSTITUT DE PHYSIQUE  
UNIVERSITÉ DE GENÈVE  
Quai de l'Ecole-de-Médecine  
GENÈVE

Geneva, May 13, 1957

*Kellenberger*

Prof, J. Lederberg  
Dept of Genetics  
University of Wisconsin  
Madison 6  
Wisconsin USA

Dear Professor Lederberg,

Under separate cover and by ordinary mail, we sent you a MS about some of the defective strains we studied. We would be very glad to have your comments and criticisms. We intend to rewrite a better discussion, which we will soon send you. Several sentences in the text are badly written and can be misunderstood; we beg your pardon.

My wife has recently reinvented the Tetrazolium-indicator-agar for Gal<sup>+</sup> plates! Elie Wollman and Jean Weigle draw our attention on the fact that you described the use of this substance long ago. There is one very surprising difference between your results and ours: in our numerous experiments, always the Gal-fermenting colonies mark in dark red, while the non fermenting become faintly coloured only much later. Comparison with EMB gives coherent results, but results with Tetrazolium plates are much clearer and more rapid. The  $p_H$  of the medium (between 6.3 and 7.8) proved to be of no influence on the discrimination. We would be glad to have your comments on this problem and we would like to know the reasons why you do not encourage the use of this method.

The work on Gal-defectives is progressing. The latest results indicate that all phages carrying the marker Gal<sup>+</sup> are defective. Upon lysogenization they produce obligatorily a defective-lysogenic Gal<sup>+</sup>. Upon lytic development they do not produce mature phage, unless a second, normal phage is also developing in the same bacterium (giving the opportunity for phenotypical mixing). Therefore the Gal marker seems to compete with part of the phage-genome, part which is essential for coat formation. A further hypothesis coming out of the work of W. Arber and my wife is that probably Gal<sup>+</sup> lysogenic producing Hfr transducing  $\lambda$  (heterogenotes) are doubly lysogenic for a defective Gal<sup>+</sup> carrying phage and a normal .

Very sincerely yours

*E. Kellenberger*