Pasteur Institute
Garches
Paris
Sept. 18th.

Dear Dr Lederberg,

Thank you very much for your instructive letter of Aug 24th. Perhaps I should state my intentions more clearly.

For some time now we have been interested in the virulence of E. coli strains for mice in particular to see whether virulence was associated with any recognizable factor or antigen. As one might expect we find that strains vary in virulence more than 10,000 fold and virulence does not seem to be associated with any of the biochemical reactions that we have or now with antigenic structure.

In fact we have two strains whose antigenic structure is well known and identical, they behave exactly alike to all the usual bacteriological tests, yet they vary very greatly in virulence. The virulence of the two organisms when killed by various methods is identical. We would like to know if virulence is largely controlled by a single gene (this we could do presumably with Salmonellae) but if it were possible to get a virulent recombining strain of E. coli we could try to map virulence. This would be fortunately interesting to us as it would involve both those aspects of bacteriology in which we are most interested - virulence and genetics.

It is our intention to start working

on the virulence of Salmonellae in the New York where I have another worker coming but I feel that the potential promise there is not so great as with E. coli.

In short, what I need are any recombining strains of coli, whether auxotrophic or not, if one of these should turn out to be virulent for mice when tested by our method the recombination studies with avirulent K12 derivatives should be feasible.

I shall be returning to London in early November, in the meantime I shall be here in Paris. Thank you for your interest.

Yours sincerely

Derrick Rowley