

Pasteur Institute
Garches
Paris
Sept. 18th.

Dear Dr. Leiberman,

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 recognisable factor or antigen. As we 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 know of nor with antigenic structure.

To date we have two strains whose antigenic structure is well known and identical, they behave exactly alike to all the usual biochemical 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 *Salmonella*) but if it were possible to get a similar recombining strain of *E. coli* we could try to map virulence. This would be particularly 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 Salmonella in the New Year
when 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 recombinant
strains of coli, whether auxotrophie or
not, if one of these should turn out to
be virulent for mice when tested by our
method then recombination studies with
nonvirulent 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
Dennis Powning