

February 25, 1955

Dr. Clifford Grobstein  
National Cancer Institute  
Bethesda 14, Maryland

Dear Cliff:

I thought you might like to know how our experiments came out on the transmissibility of "F" through the thin millipore filters.

Esther and I did several runs, including some dry runs with the standard .150 mm. filters. The results were quite definitely negative: whenever the F- culture had become F+ there had also been a breakthrough of the F+ cells themselves. Technically, it worked out quite well: I had a fair proportion of breakthroughs when I smeared fairly large areas, but these were readily diagnosed by the differential markers afterwards. We also checked that cultures growing on the same side of a filter, top or bottom, exchanged F quite readily.

We also have some experiments on trying to cross Hfr x F- through a thin filter; again, no success unless intact cells (i.e. marker combinations) had demonstrably gotten through.

We did not begin to use up all the filter material you generously provided. I would like to have the residue for odd experiments that may come up, but if you are pressed, will be happy to return it. If you have occasion sometime to reorder a batch of the thin stuff, would you let me know and let us join in your order?

Sterilization turned out to be no problem at all. UV was tried, and probably would work, but turned out to be superfluous, as the un-UV'd samples were all quite sterile (on EMB lactose medium).

See you next month,

Sincerely,



Joshua Lederberg

P.S. We have some other evidence in support of the idea that F transfer is normally related to direct cell to cell contact.