

March 10, 1952

Drs. Bernard D. Davis and Werner Maas  
411 East 69 Street  
New York 21, N.Y.

Dear Werner and Bernie:

We spent all last week in Cincinnati. When I got back, I found your shipment of K1 and K-12[NY]. I also found a lyophil tube of the Waksman strain that I had forgotten about. Last night I tested them.

Your K-12 and mine agree. However, the K1 strain, the Waksman strain, and all of the pantothenicless cultures we received last summer are alike in carrying a weak lysogenic phage active on W-1177 or K-12. The best way to show the phage is to streak the presumptive carrier against W-1177 on EMB sm agar.

It seems most reasonable to conclude that the pantothenate mutants in the K1 and K1T series are derived from E. coli Waksman rather than K-12. I will do some more tests to rule out the second possibility that your K1T somehow became contaminated with the phage, but not the cells, from Waksman.

This substitution may have been extraordinarily fortunate, because the question is now again open as to the crossability of Waks. As I recall, you did a few experiments on this a long time ago with negative results. Judging from the K1- results, however, Waks. may be interfertile with some of our new colis. Also, are not K1T as well as pnt+ reversion of K1-, both fertile with K-12 stocks? The whole story should be gone over again now, and I hope you will let me join with you in it. K1- seems to be F+; I am rechecking this with the Waks. itself.

Meanwhile, would you be willing and able to provide me with some suitable auxotrophs (for crossing) from Waks., of independent derivation from the K1 line, so that we can more easily test-cross Waks. against our other colis. If you happen to have a diauxotroph S<sup>+</sup> ready-made, this would help especially for SRP tests against other colis in which we have not yet made suitable auxotroph testers.

Have you summarized the cultural peculiarities of Waks? I have in mind sugar fermentations, phage reactions, etc.

Sincerely,

Joshua Lederberg