

March 5, 1953

Dear Al:

I enclose the following cultures and phages:

Salmonella typhimurium, LT-2 (Lilleengen's type 2, #85)

Salmonella typhimurium SW-912 (= Boyd's #1404)

Salmonella gallinarum, Edwards 3728-52

PLT-22 (extracted from S. typhimurium LT-22, and grown on LT-2)

22V a lytic variant of PLT-22.

I have been working extensively only with LT-2, of these cultures. PLT-22 can be grown to a respectable titre (4×10^{10}) on broth cultures of LT-2 with no difficulty; agar plate cultures should give even higher yields (Zinder has been playing with this). PLT-22 will induce lysogenicity readily in both typhimurium strains; I am just about to examine the S. gallinarum. Promptly after infection with PLT-22, LT-2 becomes resistant to lysis by 22V: one can in fact titrate PLT-22 by the count of surviving bacteria. The fact that almost all of the transductions of LT-2 mutants are protected against 22V, under conditions of low multiplicity of the transducing phage PLT-22, is possibly the strongest evidence that the transducing particle is also an active virus particle.

S. gallinarum is sent as being supposedly much less pathogenic for man. It serves as a satisfactory indicator for the two phages, but has not yet been studied in detail. PLT-22 displays a wide range of "host-induced" modifications when adapted in different hosts, but this is of no great present concern.

Cultures of the phages can be heated to 60° for 30-60 minutes to sterilize them before further handling, as a safety measure. My routine procedure has been to heat the (fully turbid) "lysates", sediment the killed bacteria, and preserve the supernatant with chloroform. PLT-22 is quite rugged, and can most easily be concentrated and purified by precipitation with cold alcohol or saturated ammonium sulfate.

Yours sincerely,