

July 1, 1948.

Dr. F. M. Burnet,
Hall Institute of Medical Research,
Royal Melbourne Hospital,
Sydney Road, Melbourne, Vic.,
Australia.

Dear Dr. Burnet,

I am writing to ask you whether you have still preserved your collection of Salmonella viruses, and whether it would be feasible to send some of them to me. A program is under way here now to test the occurrence of factor recombination in Salmonella, and I have hoped that virus resistance would prove as useful a marker as it did with coli. Unfortunately, Madison sewage has yielded only a very weak phage for the particular typhimurium strain on which we are now working (S-21), and I haven't been able to unearth suitable stocks from other workers in this country.

S-21 is also of interest insofar as it is lysogenic for S. gallinarum, in full accord with your paper of 1932 (JPE 35). While trying to explore the genetic implications of lysogenicity, I have tried to disinfect S21 by the use of heavy doses of ultraviolet light. However, none of several hundred tested survivors has lost its phage, suggesting the possibility of an obligate symbiosis. It has been possible to test a large number of cultures for lysogenicity by taking advantage of the nutritional difference between gallinarum (thiaminless) and an induced mutant of S21 requiring isoleucine. The gallinarum is spread on a thiamin-minimal agar plate, and spot-inoculated from S-21 colonies. The latter are unable to proliferate on this medium, but in every case have led to a wide zone of lysis. Your help in the above matter would be greatly appreciated.

Yours sincerely,

Joshua Lederberg.