

January 18, 1952

Dr. Felix L. Haas
Laboratory of Genetics
University of Texas
Austin, Texas

Dear Dr. Haas:

This letter is in reference to the paper by you and your colleagues, "Mutations and mutagenic agents in bacteria", published in the *American Naturalist*, 84: 261-274, 1950, especially pp. 264-267. I have long been interested in the apparent difference between strain K-12 and strain B with respect to the phenotypes of Tl-resistant mutants. In the latter, the "B/1" (i.e. sensitive to T5) is usually associated with a requirement for tryptophane, whereas I have not been able to find this with K-12.

In your paper, you report an association between resistance and auxotroph mutations. My older experience was not in accord with this, and one of my students has more recently attempted to repeat the experiments on a larger scale, using replica plating for simple and direct tests of auxotrophy among Tl-resistant mutants. With the exception of two prolineless colonies out of a very large number (ca 10^3), again no association was found. The two prolineless mutants were readily separable from the Tl-resistance in recombination tests and undoubtedly represented random, spontaneous mutants.

Your paper, which mentions this aspect only in passing, did not give experimental details that might permit a closer comparison of our discrepant findings. Were the ~~fasted~~ colonies from a single plating, and from what sort of mutagenic treatment, if any? In view of the seeming concordance of their nutritional requirements, might you not have picked up a clone that was coincidentally auxotrophic and resistant? If your analysis indicates to you that there is indeed a significant association, have you carried out or considered genetic tests? I would appreciate a clarification of the details of this published experiment that might permit the possible discrepancy in our findings to be either explained or to be rectified by further experiments.

Yours very sincerely,

Joshua Lederberg
Associate Professor of Genetics