July 14, 1948.

Dr. M. Stacey,
Department of Chemistry,
University,
Birmingham,
England.

Dear Dr. Stacey,

We are studying the genetic control of galactosidase specificity in Escherichia coli. So far, it has been possible to test enough compounds with different aglycons to show that a number of genes control aglycon specificity both qualitatively and quantitatively. However, so far, we have not prepared nor been able to secure homomorphic glycosides to test the control of glycosidic specificity.

Mr. Martin Seidman, who as you know is working under K. P. Link's direction, is kindly helping with the preparation of the necessary substrates. He suggested that you or your colleagues might have prepared some of the compounds in which we are interested. These would include any b-D-fucosides, b-D-galacturonosides, a-L-arabinosides or b-D-desoxygalactosides. I should be extremely grateful for any samples of these compounds in any quantities that you feel can be spared.

The E. coli system has the advantages that a) it is adaptive, and irrelevant enzymes are not formed appreciably when the cells are grown on the type substrate, and b) it can be mutative, i.e., it is often possible, when the original organism is inactive on a new substrate, to develop mutants whose enzymes are so modified that the substrate can be attacked. These, of course, are the most interesting types(and the mutation has been obtained for lactitol and for "neolactose". Your help will be greatly appreciated. Yours sincerely,

Joshua Lederberg, Ass't Prof. Genetics.