VETERANS ADMINISTRATION
HOSPITAL
ALBANY, NEW YORK

August 24, 1960

YOUR FILE REFERENCE:

IN REPLY REFER TO:

Dr. Esther Lederberg
Department of Genetics
Stanford University
Stanford, California

Dear Esther:

I have tested the strains you gave me: Gal_{16} (W4221-820) and Gal_{22} (W3805). Gal_{22} was not tested for accumulation because it turned out to be Gal-positive upon plating. Gal_{16} accumulates large amounts of galactose and a fair amount of β-methyl-galactoside. You can see in the enclosed table what a fair amount means.

The results of accumulation in a series of galactose-negative mutants is given in the enclosed table. A relationship between β-methyl-galactoside accumulation and the B cistron could exist. Gal 1, 4, 6, and 7 accumulate less β-methyl-galactoside than the others, although values of less than 20 CPM are not very significant. If the methyl-galactoside permease is associated with the transferase, one would expect Gal 3 and 9 to have very little permease also. Nevertheless, Gal_3 has about 30% of the Gal^+ parent strain. Before reaching any conclusions, it will be necessary to know the exact amounts of transferase in these strains. Larry's mutants 3101, 3102, 3103, etc., were used, except for Gal_5 which was W677. (Does Gal_5 belong to cistron E?) You will notice that Gal 3, 5, and 9 did not grow on Davis' medium and to obtain good growth 0.2% tryptone was added. (Luria's method which, according to him, does not affect induction.)

Just a few days ago, it occurred to me that perhaps the isogenic strain W3110 was also poor in the β-methyl-galactoside permease. As you can see in the table, it accumulates about a third of the amount in 2244. These are mainly preliminary results. Some of the accumulation values were obtained from single experiments. We will repeat the experiments and I will let you know if there are basic differences. If you have any new cistrons I will be very interested in testing them. I think that cistron E, with Gal_{21}, should be tested further.

Did you receive the culture of reverted 4349?

Best regards to you and Josh.

Sincerely,

Boris

Boris Rotman