

4 November 1947.

Dear Jacques,

Since our last meeting, I have of course come out here to Madison, which Esther and I enjoy very much. I don't have much of a lab yet, but have been able to get down to work looking for carbohydrase mutants. K.P.Link has become interested in the problem and will set one of his students to the task of synthesizing some of the synthetic glycosides that will be needed.

A few carbohydrate mutants have turned up in the last two weeks that may be of some interest to you. These are independently occurring mutations in nitrogen-mustard treated populations:

W-1 (in Y53: T-L-B ₁ -Lac-)	Maltose negative	(Mal-)
W-2 (in 58-161: B-M-)	Galactose neg.	(Gal-)
W-22 (in 58-161)	Maltose neg.	(Mal-).

More have been found but not yet checked to ensure they are not contaminants.

In addition, stocks of 58161 were found to consist of two components which I label G^F and G^S respectively, and are identified by typical large and very small colonies on certain galactose-containing media. BMB agar made up with 1% galactose and 1% "N-2-Amine" (A partial enzymatic hydrolysate of casein supplied by the Sheffield Company) shows this fairly well. Using peptone or N-2-Tone, which are similar products, the G^S colonies are indistinguishable from from G^F. In view of the high proportions of these types in the 58-161 stocks which had been maintained on a peptone-glucose agar, there must be a rather appreciable rate of mutation. I would suggest that this corresponds to your G+/G-. The Gal- referred to above refers to the ability to produce acid from galactose.

Attempts to obtain Sucrose+ variations have not yet succeeded. If you should happen to pick one up in a biochemical mutant of K-12 I would appreciate it. I shall send you the above mentioned stocks as soon as convenient. Among the other sugars, K-12 is positive on: melibiose, sorbitol; slow (and can be pepped up) on dulcitol; slow on rhamnose, and negative on cellobiose, α-methyl glucoside, and inulin. I forget to mention that it is + on xylose and arabinose. In addition to sucrose I am trying to obtain + mutants of the other negative sugars.

Please convey my remembrances and respects to Mrs. Lwoff and Teissier. Don't forget to send me your set of reprints.

Sincerely,

J. Monod
Institut Pasteur