

NEW YORK UNIVERSITY—BELLEVUE MEDICAL CENTER  
NEW YORK UNIVERSITY COLLEGE OF MEDICINE  
550 FIRST AVENUE, NEW YORK 16, N. Y.

DEPARTMENT OF BIOCHEMISTRY

OREGON 9-3200

May 24, 1958

Dr. Maxine F. Singer  
National Institute of Arthritis and Metabolic Diseases  
National Institutes of Health  
Bethesda 14, Maryland

Dear Maxine:

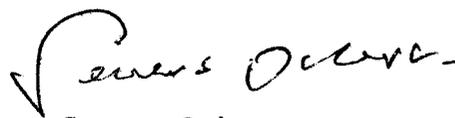
I think you are right in planning to give some of the background on polynucleotide phosphorylase in your talk in Canada because of the mixed nature of the group there. I have no specific suggestions but I am sending you copies of two manuscripts which may help you in this regard. One, which contains the background material, is the talk I gave at the New York Academy of Sciences last year. The other, which deals with more recent work, is the manuscript that Sanae and I submitted for the Enzyme Symposium in Japan, and contains essentially the data that she presented there. It will eventually be published in the Proceedings of the Japanese Symposium. Since we happen to have two sets of slides (I took one to South America while Sanae took one to Japan) I am sending <sup>one of</sup> them to you so that you could use whichever you like in your talk. If you <sup>^</sup> send Sanae a copy of the manuscript she may be able to send it to me abroad after she has read it.

I was glad to hear that you have gotten the gel step to work satisfactorily. We recently went ahead from a fairly large amount of gel eluate and had an excellent result with the protamine step, which involves precipitation with protamine, taking up in 0.1 M glycine containing 20 per cent saturated ammonium sulfate, adjusted to pH 6.5 precipitation with ammonium sulfate, and two negative gel steps with calcium phosphate and alumina  $\gamma$ , respectively. Here, as we did last year, we went from specific activity (optical) between 25 and 30 to specific activity 90 with 100 per cent recovery of the units. However, the subsequent

treatment as we had done it last year, which involves taking an ammonium sulfate cut at pH 6 and 30 per cent saturation, followed by precipitation by lowering the pH to 5.2 did not work well at all. We got no further purification and lost more than half of the units presumably through inactivation. I can't see the reason for this because, although it was not a step to get excited about, it had worked fairly well last year, giving us about 25 per cent of the units with specific activity 160. In view of this drop, we are using one of the lower fractions we got from this step (specific activity 50) to try DEAE-Cellulose columns. I shall ask Sanae to let you know how this works. At present I can only say that it looks just slightly promising. We are keeping about 5000 units of specific activity 100 to try to push it further if we find a satisfactory column step or, if worse comes to worse, to do priming experiments with.

With best regards to Dan and yourself and also to everybody in the lab,

Sincerely yours,

A handwritten signature in cursive script, appearing to read "Severo Ochoa". The signature is written in dark ink and is positioned to the right of the typed name.

Severo Ochoa

SO:mak