

Medical Research Council Unit

8th March, 1957

Dr. J. D. Watson,  
The Biological Laboratories,  
Harvard University,  
Cambridge 38,  
Mass., U.S.A.

Dear Jim,

It is now a little over two months since Sydney arrived and to our surprise we are already doing experiments, although only preliminary ones. Sydney has started on the genetic mapping of a number of loci affecting attachment, and therefore probably controlling the protein(s) of the tail. He has Leslie Barnett as his assistant, and has trained her to do most of the experimental work.

You will be surprised to hear that I am set up in Alfred's old room at the Molteno, although only temporarily ~~will~~ our own Spince arrives (it is due in April). A week ago we acquired a new assistant, who has done five years biochemistry at the Strangeways mainly on RNA extractions and estimation, etc. I have already done preliminary incorporation experiments on rat liver supernatant. John Littlefield has been teaching me all the tricks of the trade. Most of our counting equipment has arrived, but the actual G.M. tube and castle won't come till next week, so I am using David Dunn's set-up. Jacobson, of the Strangeways, is supplying me with a mouse leukemia. I have not got any incorporation in the homogenates of this yet, but it is very attractive material as there are lots of microsomal particles and very little endoplasmic reticulum. In a preliminary run on whole "microsomes" from the leukemia Robley got very good e/m pictures of the particles (sprayed and shadowed: next time we shall freeze spray), so all being well we shall use these for e/m work and structural studies generally.

Our main aim, however, is to do the permeability experiment. One puts microsomes on one side of a dialysis sac and activating enzymes on the other, and sees if anything will go through the membrane. Korner, in Biochemistry, has, at our suggestion, tried this, but his effect was small and the control inadequate, so he is doing it again. At the moment I have no ATP-generating system, but I hope to get some creatine kinase from Freddie next week.

Freddie, who is coming to stay this weekend, is planning to isolate and purify one of the activating enzymes (probably not the tryptophane one) and then study its kinetics.

Todd's lab. is waking up to the fact that it really is important to know how to tell exactly how an amino acid is joined onto a nucleotide or onto RNA in any given case. There is a rumour that Weiland has shown that the supposed AMP-leucine mixed anhydride really has the carboxyl joined onto the 3 position, as an ester. Dorothea Raacke (in Todd's lab.) is preparing these compounds and I've no doubt that they will hammer it out. Dan Brown also has a man working on model compounds in which the amino group is joined onto the phosphate. Once the organic chemistry has been worked out it should be possible to tackle Hoagland's material and also Dounce's, for that matter.

I assume you've heard all about our ideas arising out of Hoagland's work - I asked him to tell you - we're hoping he will be able to come to Cambridge, and have suggested that he comes jointly to Todd and to us.

On the 18th I go for a "week" to Ponte's recombination conference in Scotland. Seymour Benzer is coming over for this, and will come on to Cambridge for a few days. We expect him with his family in August. We are hoping Streisinger will also be able to come next academic year, but it isn't fixed up yet. As I expect you know Roger Hart is coming to work with John and learn crystallography.

I expect Alfred will have arrived by now. We shall be interested to hear what you plan to do. Incidentally I hear that Rabinovitz is looking for a job. Would you like to have him with you? Korner, who is a friend of his, is writing to him to suggest the possibility to him.

There is very little news in the way of results. An Indian at Mill Hill, called Bhargara, claims to get considerable amino acid incorporation into mature sperm (Bull)! However it has not yet been shown to be irreversibly incorporated. We shall probably all visit Mill Hill some time in April.

We see Belinda from time to time. Her father has been made a Fellow of Clare, so I don't see him as much as I used to. Av and his fiancée stayed for a weekend - a nice girl - and Michael and Murdoch have payed brief visits. We expect the Roberts for a week or so in June. Are you planning to come over this summer?

8 What do you think of Alex's poly A plus 2 poly U? Incidentally Leslie Barnet has made an Edsae tape to calculate bond distances and angles. We are checking Maurice's DNA coordinates!

Do write.