## IMPERIAL CANCER RESEARCH FUND LABORATORIES

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Dr. Harold E. Varmus, Dept. of Microbiology, University of California, School of Medicine, San Francisco, California 94143, USA.

2 August 1977

Dear Harold,

It would be very hard for me to say what experiments GMAG would allow under what containment facilities. My feeling is that cloning of so-called "cancer viruses or cancer genes" is still something that no agency will give an easy ride to either here or in the USA. The only way to find out how GMAG thinks is submit an application to them. Their classification of experiments as well as the experiments they consider are secret, thus I only know of my own applications and those of the small number of applicants I am in contact with. Of all the experiments you propose I would think the cloning of the ASV sarc minus DNA is the most probable to be approved. But I can really see no reason to use polyoma when you may well do better in a plasmid or lambda. The MMTV genome seems to be too ill-defined both biologically and biochemically to make an argument that a safe piece of DNA is being cloned.

I believe I told you when you were here that some years ago I started trying to clone the Herpes thymidine kinase in polyoma, but stopped when the guidelines were published. I now have been approved by GMAG to clone mouse DNA in polyoma and one of the genesI hope to go after, is thymidine kinase and thus see no reason to use a virus TK. Also in a country like Great Britain there might well be resistance against using pathogenic viruses of animals (e.g., Robin has to be very careful with VSV). But to think of it, I really don't know how pathogenic pseudorabies is.

I guess, in rereading what I have written, that I haven't been of much use. I can only suggest submitting an application to GMAG and seeing what happens. As you know GMAG treats each case independently and if the arguments are good enough it may well be approved in toto or with minor modification.

Please write and tell me what you would like to do next.

All the best,

Mike Fried