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DEPARTMENT OF BIOCHEMISTRY

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Dr. William Gartland
Executive Secretary
NIH Committee on Recombinant DNA
Molecule Biohazards
NIH
Bethesda, Maryland 20014

Dear Dr. Gartland,

I have been searching the revised Guidelines and the proposed amendments to be reviewed at the February 15-16 meeting of RAC for a clear statement concerning the introduction of recombinant DNAs into whole animals.

As you know the experimental ground work for such experiments has already been provided by Dr. Beatrice Mintz's experiments. She has shown that teratocarcinoma cells grown in culture can be incorporated into mouse blastocysts which ultimately can yield mice containing a variety of cell types derived from the teratocarcinoma cells. Using appropriate selections it is feasible to introduce exogenous DNAs (be they derived by recombinant techniques or otherwise) into such teratocarcinoma cells and hence into animals.

Inasmuch as many cloned mammalian genes will be coming available for such experiments it is important to develop a policy for performing such experiments. In my view I can not see any justification for hesitating to insert recombinant DNAs into animals via this protocol, particularly since rabbit, chicken, human etc. DNA segments can be injected directly into blastocysts without any restrictions or regulations. The recombinant DNA approach is more sophisticated and controlled since it permits the use of selected genes and, therefore permits the production of donors e.g., genetically modified teratocarcinoma cells. This greatly simplifies the process of identifying the cells that carry the newly introduced genes.

It seems wise to me for RAC to anticipate this line of research and to formulate interim and longer-term policies about this research. I hope this can be done expeditiously and if needed I would be glad to testify to the tremendous scientific and medical importance of such experiments; however, there are others (Bea Mintz, in particular) who could do it far more ably.

Sincerely yours,

Paul Berg

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