


DATE: August 27, 1974

To : Paul Berg

FROM : Stan Cohen 

SUBJECT: SELF-REGULATION RE: MOLECULAR CLONING EXPERIMENTS

Josh Lederberg's memo to Dr. Robert Stone called to mind another point I'd like to make regarding self-regulation of molecular cloning experiments by scientists.

For almost a year after our observation that the pSC101 plasmid could be used for cloning foreign DNA in E. coli, this plasmid was the only replicon demonstrated to be suitable for this purpose. During that period, and prior to the publication of the NAS Committee's letter, control of dissemination of this plasmid to members of the scientific community was voluntarily exercised by those scientists having the plasmid in their possession. Before sending the plasmid to another scientist, I required a statement indicating that it would not be used to introduce any oncogenic virus DNA or disease-causing human virus DNA into bacteria. In addition, recipients of the plasmid were asked to agree not to use it for creation of antibiotic resistance combinations that were not known to exist in nature. Finally, scientists who received this plasmid were asked to agree not to distribute it outside of their laboratories.

Although the restrictions noted above are somewhat less stringent than those specified in the Committee's letter, they have a basic similarity to what was finally agreed upon by the group. In addition, I think it is important to point out that this approach, which was taken voluntarily by me and agreed to by recipients of the pSC101 plasmid, represented de facto self-regulation by those scientists in possession of what was at that time an essential tool for exploitation of the molecular cloning technology. So far as I know, no scientist receiving the plasmid has violated his agreement, despite my obvious lack of ability to enforce compliance once the plasmid had been given out. It is worthwhile noting that this kind of responsible self-regulation by all scientists involved was carried out in the absence of the more recent and very substantial peer group pressures that have resulted from publication of the NAS Committee letter.

Despite the very few instances, of which we are both aware, of scientists who may have been prepared to carry out experiments that we would both agree are potentially hazardous, I agree strongly with Josh's point that the majority of scientists are "so law abiding and generally so responsive to social sanctions that many of these concerns have been internalized, and are accepted informally without fuss and question." Thus, the self restraint that was informally accepted last year and early this year in the absence of any official restriction was sufficient to prevent potentially hazardous experiments from being carried out.

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As I mentioned to you when we spoke last week, I too am concerned that the interpretation of the Committee's report put forth by much of the lay press may result in attempts by some to impose from without stringent restrictions concerning the kinds of experiments which should or should not be done. I urge you in your forthcoming discussions in England to stress that even prior to the Committee's letter, scientists were in fact highly responsible in establishing, on their own, a mechanism for self-regulation of experiments of the type dealt with in the Committee's report.

SNC:c1

cc. J. Lederberg