

Introduction to the Proposed Revisions to the NIH Guidelines for Research Involving Recombinant DNA

Panel IV

Revisions to Section III-E-1 Experiments Involving the
Formation of Recombinant DNA Molecules Containing No More
than Two-thirds of the Genome of any Eukaryotic Virus

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Panel IV

Moderators

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Section III-E-1: Experiments With rDNA Molecules Containing No More than Two-Thirds of the Genome of any Eukaryotic Virus

- ❑ Concerns were raised that the section may not adequately apply to potential synthetic biology agents derived from multiple sources of NA or even to some wild type viruses which may function with less than 2/3 of the genome present
- ❑ Half of the genome was chosen to be consistent with more recent reports of the biology of certain viruses
- ❑ The use of BL1 containment was clarified to be appropriate only after demonstration that the preparation(s) are free of replication competent virus which may be generated by homologous recombination with endogenous proviruses or the presence of helper virus.

Section III-E-1 Revised

- ❑ BL-1 containment and initiation of experiment upon registration with IBC for experiments involving risk Group 3 and 4 viruses with less than one-half of any viral genome provided evidence is also submitted attesting that the preparation(s) are free of replication competent virus
- ❑ Risk Group 1 and 2 viruses with less than one-half of the genome are exempt from *NIH Guidelines* per Appendix C-1

Discussion Questions

- Is the reduction from $2/3$ to $1/2$ the genome more appropriate from a biosafety perspective or are there many experiments involving Risk Group 3 or 4 viruses which contain more than $1/2$ of the genome but less than $2/3$ that can be done safely at BL1?
 - Example from public comments included Venezuelan Equine Encephalitis virus replicons. For such research, the option exists to request that NIH/OBA determine whether containment should be lowered on a case-by-case basis.

Discussion Questions

- As this section allows initiation of the experiment simultaneously with IBC registration, is the requirement to obtain evidence that the resulting nucleic acid in these cells are not replication competent nucleic acids sufficiently clear that it could be implemented by Principal Investigators in a consistent manner?**