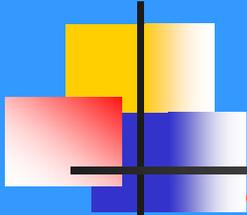


# Safety Symposium: Safety Considerations in Recombinant DNA Research with Highly Pathogenic Viruses

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## Safety Symposium September 2004

- Recent advances in recombinant DNA techniques
  - Reverse genetics
- Recombinant research with highly pathogenic viruses
  - 1918 influenza virus
  - Highly pathogenic avian influenza viruses
  - SARS
- Issues regarding containment and risk assessment



# *NIH Guidelines for Research Involving Recombinant DNA Molecules*

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## • **Appendix B-II-D. Risk Group 2 (RG2) – Viruses**

- **Orthomyxoviruses**

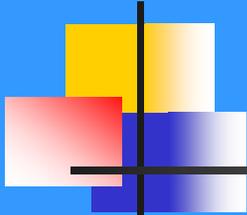
- **Influenza viruses types A, B, and C**

- **Section III-D. Experiments that Require Institutional Biosafety Committee Approval Before Initiation**

- **Section III-D-1.** Experiments Using Risk Group 2, Risk Group 3, Risk Group 4, or Restricted Agents as Host-Vector Systems

- **Section III-D-2.** Experiments in Which DNA From Risk Group 2, Risk Group 3, Risk Group 4, or Restricted Agents is Cloned into Nonpathogenic Prokaryotic or Lower Eukaryotic Host-Vector Systems

- **Section III-D-3.** Experiments Involving the Use of Infectious DNA or RNA Viruses or Defective DNA or RNA Viruses in the Presence of Helper Virus in Tissue Culture Systems



# *NIH Guidelines for Research Involving Recombinant DNA Molecules*

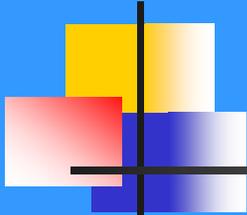
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- **Section II-A-3 Comprehensive Risk Assessment**

- “In deciding on the appropriate containment for an experiment, the initial risk assessment from Appendix B should be followed by a thorough consideration of the agent and how it is to be manipulated.”

- **Agent factors:** virulence, pathogenicity, infectious dose, environmental stability, route of spread, communicability, quantity, availability of vaccine or treatment

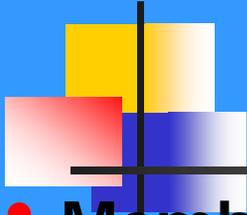
- **Gene product effects:** toxicity, physiological activity, and allergenicity



# Goals for Safety Symposium

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- Review of new areas of research and associated containment issues
- Update on revision of influenza section of Biosafety in Microbiological and Biomedical Laboratories
- Development of Points to Consider to guide IBCs reviewing these types of research



# Steering Committee

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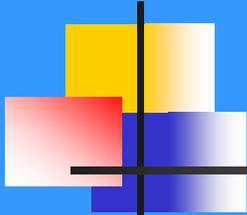
- **Members:**

- **RAC members:** Terry Kwan, Larry Johnson, Philip Johnson, Madison Powers, Naomi Rosenberg, Emmett Barkley, Neal DeLuca

- ***Ad hoc* experts:** Christina Cassetti, Kanta Subbarao, Brian Murphy, Robert Webster, Robert Krug, Kathryn Holmes, Sam Lipson

- **Mission:**

- Review agenda and recommend presentations
- Recommend panelists for discussion sessions
- Frame questions to lead discussion to useful points to consider for IBCs



# Introduction to Safety Symposium

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