



## HAVE YOU SEEN ME?



**We closed the door for you...**



Why close the door to your lab?

- All biosafety levels procedures include limited access to the lab.
- Closed doors contain chemical vapors and aerosolized infectious agents and confine flames and smoke.
- All lab doors are "20 minute fire doors".
- Closed doors help prevent unauthorized access to radioactive materials and hazardous waste.
- Building air flow is balanced with doors closed. Doors must remain closed to achieve proper room pressure differentials.
- Closed doors help deter thieves.

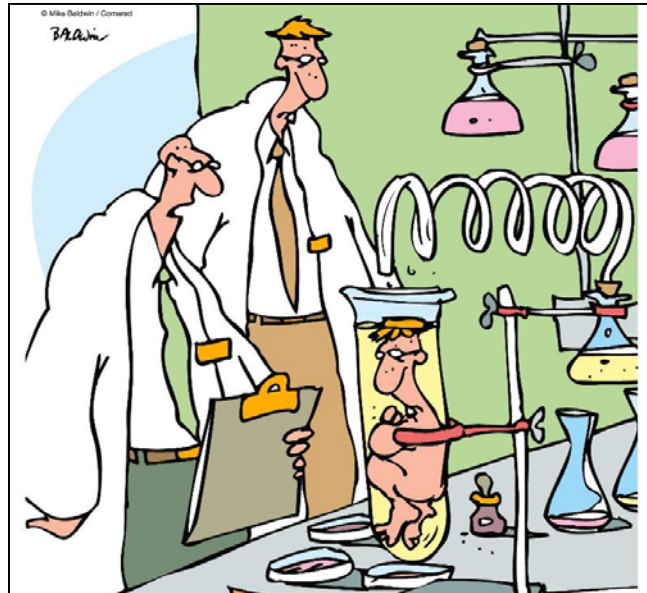


UK Environmental Health & Safety  
<http://ehs.uky.edu/>



University of Kentucky's Department of Biological Safety, Occupational Health and Safety, Environmental Management and the University Fire Marshall all have an interest in keeping the hallway doors to campus laboratories closed.

During recent inspections, we've noticed that keeping lab doors open has become a norm for quite a few departments and/or buildings on campus. With an increasing focus on biosecurity by regulatory agencies, it is imperative for doors to remain closed. In addition to this, doors should be locked when there is no one in the lab.



"Well, it certainly looks like your DNA. How many times have I told you to wear gloves before touching anything?"

**Any organism in the wrong place at the right time can cause disease!**

For more info on Laboratory Acquired Infection (LAI) please see the following links:

- ♦ <http://tinyurl.com/4qv9duj>
- ♦ <http://tinyurl.com/483qzju>
- ♦ <http://tinyurl.com/4h6zsu5>

## Biosafety Reminder:

**Please remember to remove your gloves and other PPE before you exit your laboratory and enter hallways, elevators or other public areas!**



## TOPIC:

### ***RECONSTITUTION through RECOMBINATION***

If you are in a lab utilizing molecular techniques for research, there is a good chance that you are using viral vectors. Whether the vector system being used is an commercially procured advanced safety-engineered generation or it is received from a collaborating lab down the hall, it should not be assumed that the materials are completely safe.

To make a vector system, pathogenicity of a virus is disrupted by deleting certain genes from the viral genome to disable the ability of the virus to replicate in target cells. During amplification and packaging of viral vectors the possibility remains to re-acquire the genes necessary for growth. Cells are able to integrate foreign DNA into their genome. The process by which this occurs does not require areas of identity between different DNA sequences involved. This ability of cells is how recombinant viruses are constructed.

While reconstitution is a rare event and generally would occur at low levels, there is potential for amplification in culture. In addition, while replication incompetent virus will only have localized effects *in-vivo*, a reconstituted replication competent virus will disseminate.

A realistic risk assessment for the protection of personnel and guidance for containment and work practices requires an understanding of the vector system involved as well as of the expression construct. The consequences of the end product and possible virulence factors should always be considered. Efforts to lower risk should also include evaluating whether the particular vector being used is necessary for the project or merely convenient. Higher generations of vectors are safer.

**As always, proper engineering controls for containment, safe work practices and appropriate PPE should be utilized at all times when working with viral vector systems.**



University of Kentucky

## Department of Biological Safety

As part of the Division of Environmental Health & Safety, the Department of Biological Safety is responsible for programs concerning the safe use of recombinant DNA, infectious agents, and potentially infectious materials such as human sourced materials in the research and teaching laboratories at the University of Kentucky. This includes training, auditing, and consulting with researchers, laboratory personnel and teaching staff concerning compliance with the federal and state laws and regulations in these areas.

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Visit us on the web!

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