Requirements for Contents of Laboratory Notebooks
BIO 510 - Fall 2002

1. Record the date of the experimental activity
2. Briefly describe the purpose of the activity
3. Describe the procedural steps that were carried out
4. Present the results and the data that you obtained
5. Label the data appropriately (*e.g.,* units on measurements)
6. Place into the notebook next to the above a photograph (*e.g.,* agarose gel result), x-ray (*e.g.,* hybridization result) or other visual documentation, with the items in it labelled clearly
7. If the experiment failed (*e.g.,* no insert in the clone, or restriction digestion failed to cut the DNA), offer reasons to explain why it failed and propose an approach to obtain a successful result (*e.g.,* religate with different ratio of vector to insert, or repurify the DNA to make it cleaner for digestion)

Example Entry in Laboratory Notebook:

Date: August 15, 2002
Purpose: To release the insert DNA from the Bluescript II Vector clone
Procedure: Use *Not*I and *Kpn*I restriction enzymes to liberate the insert from the multiple cloning site. The *Kpn*I requires a 10 mM salt buffer and the *Not* requires 100 mM Na+ salt buffer.
Add - 1 microliter (50,000 units/ml) of *Kpn*I restriction enzyme
- 1 microliter of 10x low salt restriction buffer
- 1 microliter of DNA (from 1 microgram/microliter stock)
- 8 microliters water

Final volume 10 microliters

Incubate at 37 C for 1 hr

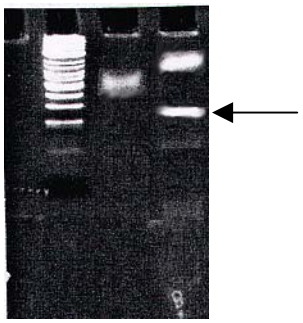
Add sufficient NaCl to raise the Na+ to 100 mM final Nat+

Add 1 microliter (50,000 units/ml) of *Not*I restriction enzyme

Incubate at 37 C for 1 hr

To analyze the digestion, cast a 1% agarose gel containing ethidium bromide. Add to the lanes as follows:

1- Molecular size markers
(1 kb)
2 – uncut superhelical DNA (control)
3 – cut, linearized DNA



The restriction digestion is successful. The liberated insert (arrow) is of the correct size with respect to the molecular size ladder