

Biology 1408 Laboratory
Inquiry-Based DNA Technology Laboratory
DNA Fingerprinting Notes

I. Learning Outcomes

A. Student Should Be able to:

- identify virus and viral infection
- Identify hemorrhagic fever
- Identify agarose gel
- Identify electrophoresis
- Identify restriction digest analysis
- Identify DNA fingerprinting analysis

B. The student must demonstrate successful completion of the laboratory exercise: Read Student Worksheet

- cast agarose gel (20 pts)
- load gel (20 points)
- electrophoresis (20 pts)

C. The student must submit results and conclusion

- Describe the results: Compare the fingerprints of the Pennsylvania, Alabama, and Missouri virus strains. (20 pts)
- What are your conclusions about the virus infecting the 3 Missouri patients (20 pts)

II. What is the nature of viruses and viral infection?

--viruses were first discovered by microbiologists seeking the cause of a plant Disease

- a nonliving, complex molecule
- infectious particles, consist a protein coat ,containing nucleic acid of RNA or DNA
- protein coat on is called a capsid, encloses the genome
- some viruses also have an outer envelope

--Viral Infection

- viruses require a host cell to reproduce
- inserts viral genome into that of host, transforming the normal cell into a cancer cell
- virus may remain lysogenic (dormant) or lytic, death of host cell