

Name:
Class:
Data:

Restriction Enzyme Cleavage and Electrophoresis

Molecular Weight Standard Lambda DNA/HindIII

DNA fragment No.	Migration Distance (mm)	DNA Fragment size (bp)
1		23,130
2		9,416
3		6,557
4		4,361
5		2,322
6		2,027
7		564
8		125

Molecular Weights of Unknown DNA Fragments:

Lambda DNA, uncut

DNA Fragment No.	Migration Distance (mm)	DNA Fragment Actual Size (bp)
1		
2		
3		
4		
5		
6		

Lambda DNA, cut with EcoRI

DNA Fragment No.	Migration Distance (mm)	DNA Fragment Actual Size (bp)
1		
2		
3		
4		
5		
6		

Analysis

- 1- Based upon your gel results, which of the enzymes has the most recognitionrestriction sites in the lambda DNA genome? Explain.

- 2- How did the uncut lambda DNA sample compare to the 2 digested DNA samples?

- 3- A restriction enzyme digest resulted in the following sized fragments: 8,700 bp, 9,500 bp, 10,400 bp, 4,500 bp, and 6,700 bp. Illustrate the resulting banding pattern on a gel. Use the Standard Curve to determine the migration distance of each band.

- 4- What is the function of each of the following in gel electrophoresis:
 - a. Agarose gel

 - b. Running buffer

 - c. Wells in the gel

 - d. Electrical current

- 5- Describe how agarose gel electrophoresis sorts different sized molecules.