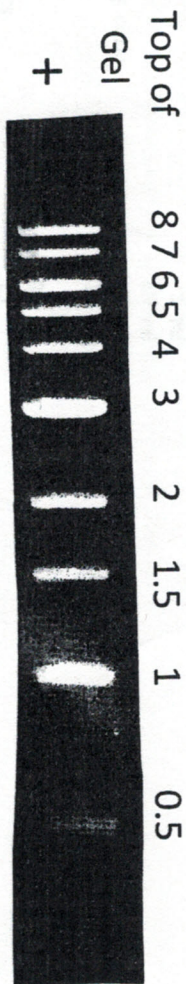


DNA Markers

The DNA markers that are provided for the enclosed experiments have been changed from those described in the student and instructor guide. An electrophoretic profile of these new markers on a 1.2% agarose gel is shown below. Sizes of the markers are in kilobase pairs (1 KB=1000 base



The sample water contains glycerol, Bromophenol blue, and electrophoresis buffer. The concentration of the plasmids is 350µg/ml and the concentration of the DNA markers is 150µg/ml. The markers are dissolved in sample buffer and are ready for electrophoresis.

II. Materials that are Needed but Not Provided

- PROCELL Electrophoresis Unit and MB-170 Power Supply or equivalent
- Accessory Kit or equivalent
- Water Bath
- Agarose, Electrophoresis Buffer and Gel Stain from Electrophoresis Package 3/4. Instructions for preparing the buffer and stain are provided with Electrophoresis Package 3/4.

parts A and B of this exercise are the two parts are performed independent. DNA can be reduced to 15 minutes.

be prepared at least one day before the factor one day after the transformation.

Materials

In a glycerol solution. Immediately use buffer to the tube containing the sure that the enzyme comes in contact position in the refrigerator.

agar Plates

Twenty mg of Xgal, 1ml of Xgal solvent (Dimethyl Formamide), one bottle containing 400ml of nutrient agar plus ampicillin and 20 petri dishes are supplied. Due to the unstable nature of ampicillin, additional ampicillin is also provided and should be added to the nutrient agar plus ampicillin mixture to ensure that sufficient antibiotic is present in the agar plates. The plates must be prepared at least one day before the laboratory session. To prepare the plates:

- A. Loosen the cap on the bottle.
- B. Place the bottle in a beaker of boiling water over a burner until the agar has liquified. This should take about 20-25 minutes.
- C. Remove the bottle from the bath and let cool at room temperature for about 10 minutes.
- D. Pour the entire 1ml of the Xgal solvent into the tube containing Xgal, cap the tube and carefully shake until the Xgal is dissolved.

Note: The Xgal solvent, dimethyl formamide, is toxic at this concentration. The solvent should be handled with caution in a well vented area (a fume hood, if available) and the instructor should wear gloves.