Agarose or polyacrylamide gel electrophoresis is one of the nuclear techniques for gene manipulation. It can be used to isolate, identify and purify DNA fragments.

Material：

TAE buffer

Agarose

ddH_2O

DNA sample to analyze

Procedure：

1、Weigh 1.5g-2 g agarose and dissolve it in 100 ml TAE buffer;

2、After mixing the agarose and buffer in a flask, put it in the microwave and heat it for as long is takes to completely dissolve the agarose. Swirl the mixture to dissolve the agarose more efficiently. Shake gently to remove bubbles.

3、Add 2.5 μl 10000X GelRed dye to the flask and mix it carefully.

4、Pour the agarose mixture into your casting tray and let it harden before loading your

sample and running the gel electrophoresis.

5、Cast the agarose gel on a cast and place the comb on the top part of the gel. Let the gel solidify at room temperature for 20-30 min. Then place the

gel onto the electrophoresis apparatus ensuring that it is totally submerged in 1xTAE buffer.

6、Meanwhile, prepare your DNA samples by adding 6X loading buffer solution to the samples.

7、Carefully load each sample into its designated wells. To determine the DNA fragment sizes on the gel, load a DNA Ladder into one of the wells (1.5 µl).

8、Run an electric current of 120 V for 30 minutes. If the DNA bands have not separated completely, run the gel for a few more minutes.

9、Visualize gel using a gel reader or under UV light.