

# Q1

## Sample Preparation

Mix the samples of DNA with the 8X sample loading buffer (8:2)

Q2

**A. The scientific Name of this material . EDTA  
Ethelen diamine tetraacetic acid**

**B. Two application.**

**1- deactivate metal-dependent enzymes.**

**2- Used to suppress damage to DNA or proteins.**

## Q3

A. Name of this equipment

Mortal & pestle

B. Benefit of this step in nucleic acid extraction

Physical grinding or vortexing to separate the cells in a sample from each other.



Q4- What are the solution which add to lysate in step 2 (DNA binding)

Absolute ethanol  
(Elushin bufer)

**Q5**

**Enumerate four materials used in RNA extraction**

**1- trizol**

**2- ethanol**

**3- isopropanol**

**4-chloroform**

**5-RNase free water**

# Q6- Protocol of DNA extraction from human blood

1- samples preparation

2-cell lysis

3- DNA binding

4- wash step

5- DNA elution

Q7

Prepare 1 liter of stock TBE buffer PH 8 (40ml.EDTA,0.5mol.)

108 g tris base

55 g boric acid

5.8 g EDTA

Complete to 1 liter DW. and adjust pH 8.3 by HCl

# Q8

## Prepared agarose gel electrophoresis TBE 1X

- 1- Add 0.7 gm agarose powder + 100 ml (1X TBE) in conical flask + Eth.Br 5  $\mu$ l and hooted with cover
- 2- cooling 50-60 °C and pouring in casting tray

An agarose gel is prepared by combining agarose powder and a buffer solution.

Flask for boiling

Buffer

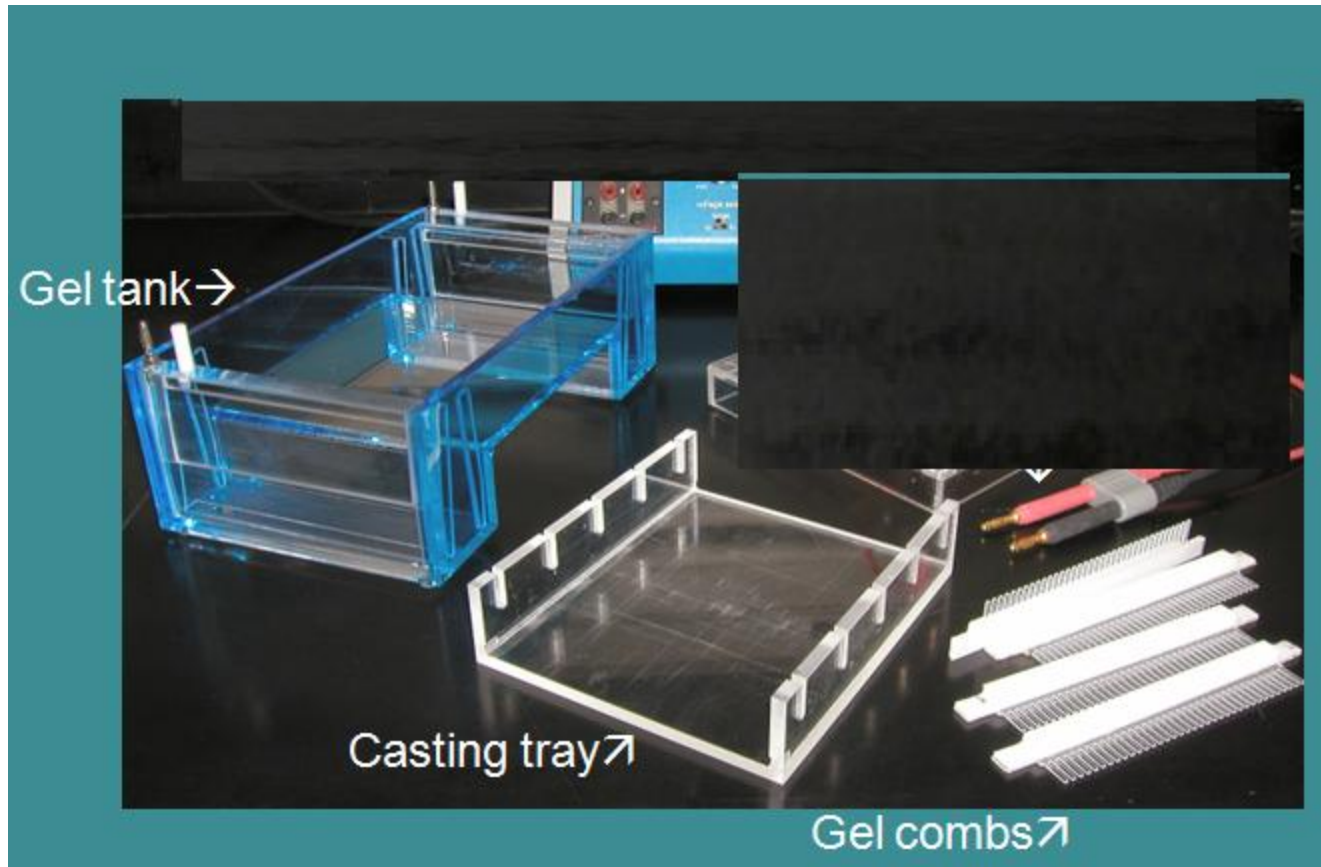
Agarose





Q9

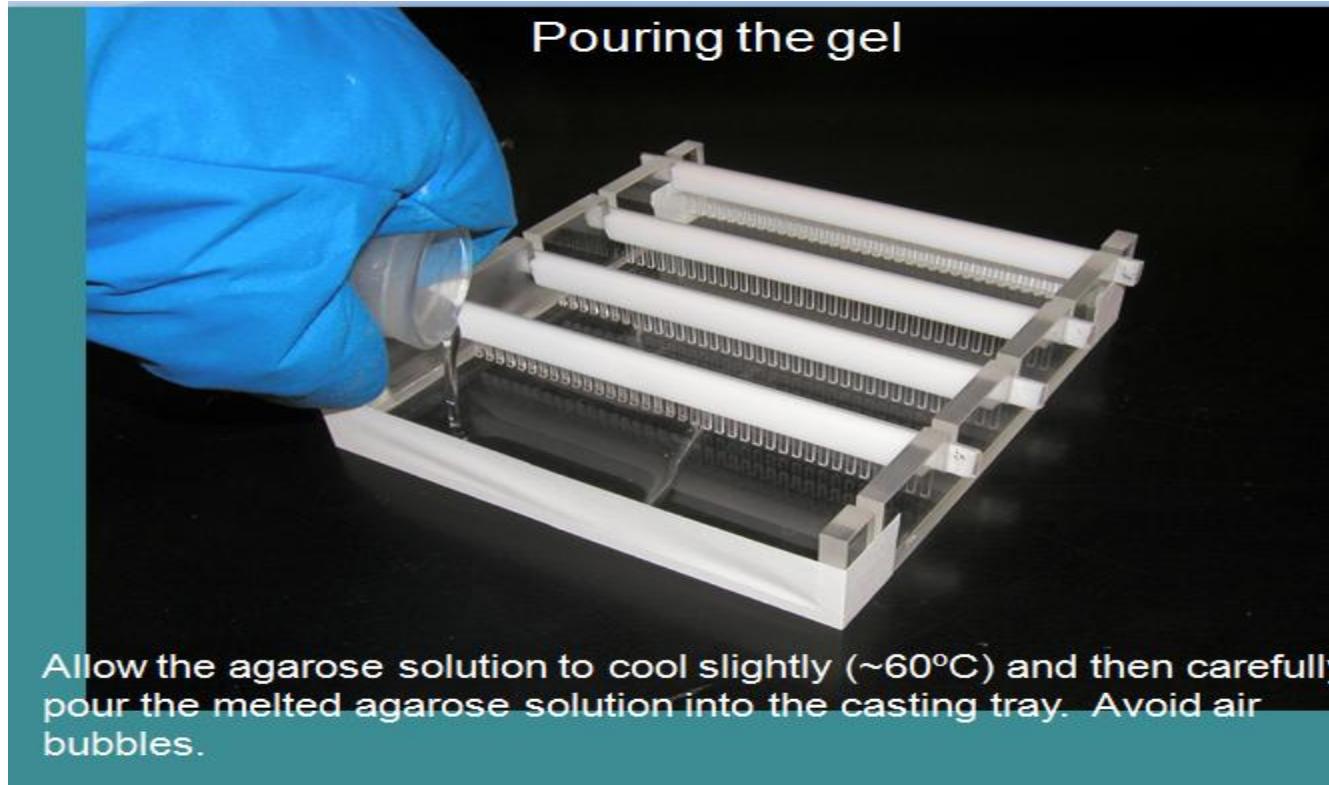
4-What are the pointed part



# Q10

A- Name of this step

B- **Explain** of this step

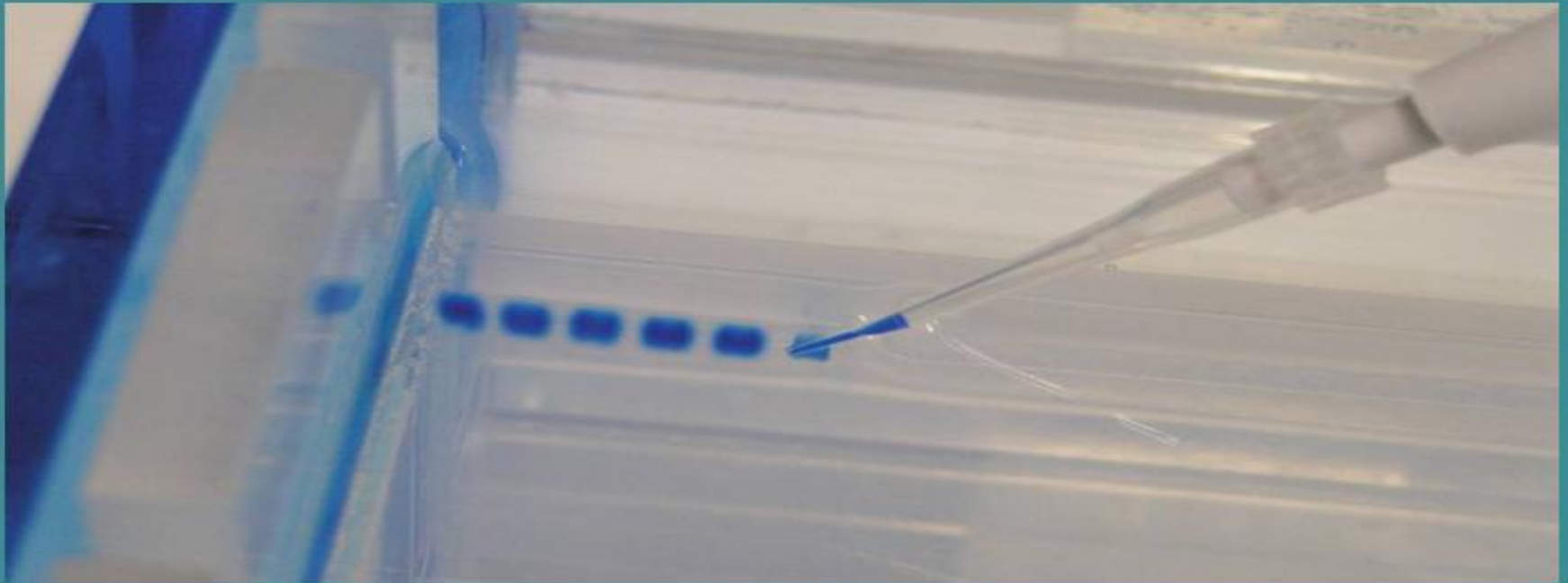


# Q11

A- Name of this step

B- **Explain** of this step

## Loading the Gel



Carefully place the pipette tip over a well and gently expel the sample. The sample should sink into the well. Be careful not to puncture the gel with the pipette tip.

## Q12

# Benefit of this material in gel electrophoresis

- 1- binds to DNA & fluoresce under UV light allowing the visualization of DNA on the gel and to increase the DNA density
- 2- Can be add to the gel &/or running buffer before the gel is run .

