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Class 12th

Subject BIOLOGY

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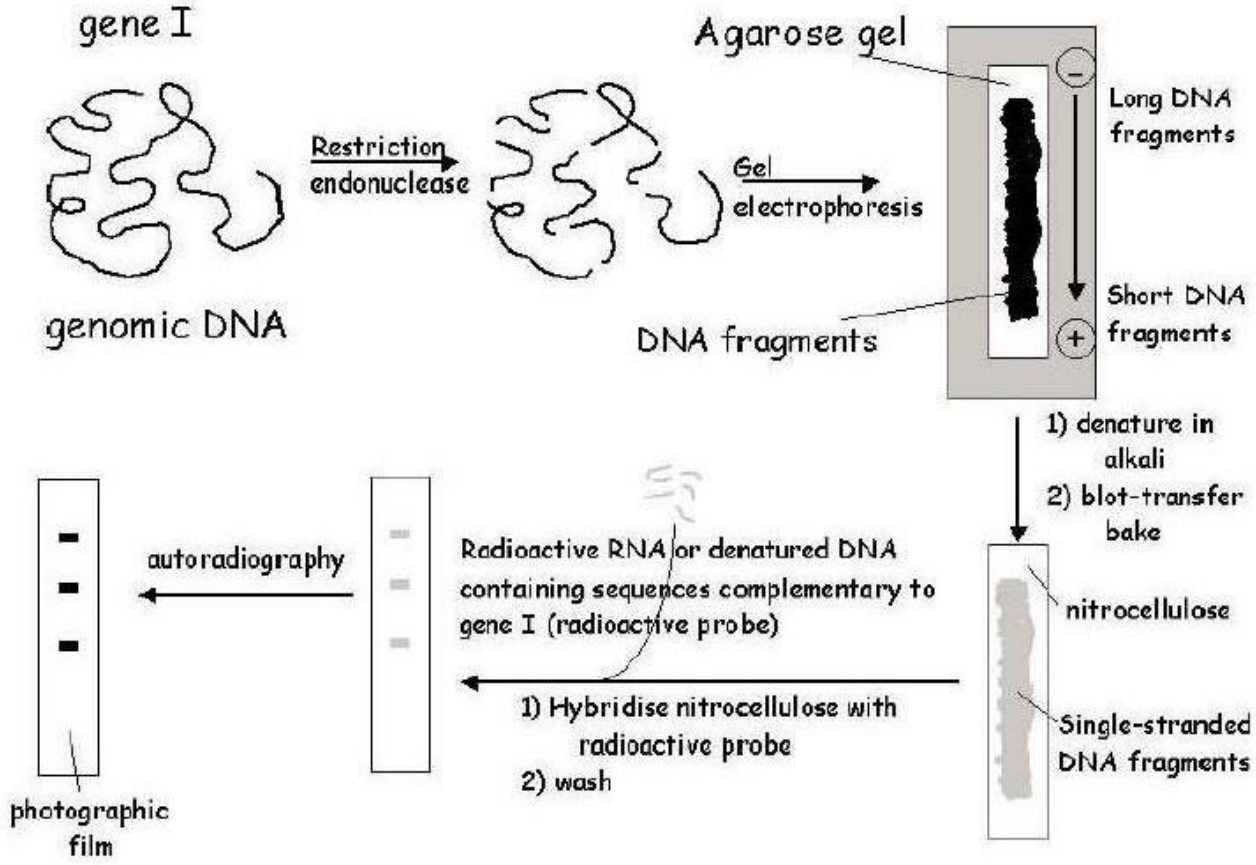
Final step is to immerse the membrane in a solution containing the **probe** - either a DNA (cDNA clone, genomic fragment, oligonucleotide or RNA) can be used. This is **DNA hybridisation** The membrane is washed to remove non-specifically bound probe, and is then exposed to X-ray film - a process called **autoradiography. The principle of Southern blotting**



PCR(Polymerase Chain Reaction) :-

PCR is a technique for the in vitro amplification of a desired sequence of DNA. PCR allows the generation of a large quantity of DNA product (up to

several
• g) from only a few starting copies. it has been shown that PCR can be used to generate a detectable quantity of DNA from only one starting target (or template) molecule.
PCR developed in the mid-1980, has found multiple applications, such as :-
1. Rapid amplification of intact genes or gene fragments
2. Generation of large amounts of DNA for sequencing
3. Generation of probes specific for uncloned genes by selective amplification of a specific segment of cDNA
4. Analysis of mutations for medical applications
5. Detection of minute amounts of DNA for forensic purposes
6. Amplification of chromosomal regions adjacent to genes of known sequence and many more·
Development of PCR won the Nobel prize for Kary Mullis and co-workers.