

AQA Biology A-level

RP02 Calculating Mitotic Index using Plant Cells

Flashcards

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Where in plants can cells undergoing mitosis be found?



Where in plants can cells undergoing mitosis be found?

Meristem tissue at shoot and root tips.



What is the mitotic index?



What is the mitotic index?

The ratio of cells undergoing mitosis to the total number of cells in a sample.



Outline the procedure to prepare a root tip slide.



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1. Warm 1M HCl to 60°C in a water bath.
2. Cut a root tip using a scalpel and add to the HCl. Leave for 5 minutes.
3. Remove from HCl and wash with distilled water.
4. Cut the tip of the root tip sample and place on a slide.
5. Add a few drops of stain to make chromosomes visible.



State the formula for the mitotic index.



State the formula for the mitotic index.

Mitotic index =

Number of cells with visible
chromosomes /

Number of cells in sample



State the hazards and precautions for reagents used in this procedure.



State the hazards and precautions for reagents used in this procedure.

HCl - corrosive, avoid contact with skin, wear eye protection

Toluidine Blue O stain - irritant, avoid contact with skin, wear eye protection

Scalpel - cut away from fingers

