AQA Biology A-level

RP08 - Dehydrogenase Activity in Chloroplasts

Flashcards

What is the function of dehydrogenase in chloroplasts?

What is the function of dehydrogenase in chloroplasts?

It catalyses the acceptance of electrons by NADP in the light dependent reactions.

What is the purpose of DCPIP?

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It is a redox indicator dye and acts as an alternate electron acceptor instead of NADP.

It turns from blue to colourless when reduced.

Why is the plant extract chilled in an ice-water bath?

Why is the plant extract chilled in an ice-water bath?

To lower the activity of enzymes to prevent them from breaking down the chloroplasts.

How is the control set up?

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Fill a cuvette with chloroplast extract and distilled water.

How is light intensity controlled?

How is light intensity controlled?

Adjust the distance of the lamp from the set up.

Perform the practical in a dark room so that the only light source is the lamp.

What is the function of the muslin cloth?

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To filter out any debris in the ground leaf mixture but allowing chloroplasts to pass through.

Why are the stalks of leaves removed before grinding?

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The stalks do not contain many chloroplasts.

Outline the procedure of investigating the effect of light intensity, after chloroplast extract has been obtained.

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1. Set the colorimeter to the red filter. Zero using a cuvette containing chloroplast extract and distilled water.
2. Place test tube in the rack 30cm from light source and add DCPIP. Immediately take a sample and add to cuvette. Measure the absorbance of the sample.
3. Take a sample and measure its absorbance every 2 minutes for 10 minutes.
4. Repeat for different distances from lamp up to 100 cm.