

Pollen Viability Test Kit (TTC)



Cat. No. PP001

Lot. No. (See product label)

Product Name

Pollen Viability Test Kit (TTC)

Product Overview

Pollen Viability Test Kit (TTC) is designed for the detection of pollen viability by the TTC staining method.

Description

Pollen viability directly affects the pollination and fertilization process, which is closely related to the plant yield. By measuring pollen activity with our Pollen Viability Test Kit (TTC), you can directly determine the viability of pollen based on color changes, further helping to understand the fertility of pollen.

Detection Method

2, 3, 5-Triphenyltetrazoliumchloride (TTC) color development reaction

Testing Mechanism

2, 3, 5-Triphenyltetrazoliumchloride (TTC) is a redox pigment with a standard oxidation potential of 80 mV. TTC dissolves in water to form a colorless solution, which upon reduction turns into red insoluble 1,3,5-Triphenyltetrazolium formazan (TTF). The respiration of viable pollen is stronger, and the large amount of NADH_2 or NADPH_2 produced can reduce colorless TTC to red TTF. The respiration of non-viable pollen is weaker and the color of TTC will not change significantly. So we can judge the pollen vigor according to the color change of TTC.

Kit Components

10 mL/50 mL TTC staining solution + an instruction sheet

Shelf Life

6 months

Applications

Biochemical research

Materials Required but Not Supplied

Slides, coverslips, thermostats and microscopes, etc.

Assay Protocol

1. Take an appropriate amount of TTC Stain and bring it to room temperature, evenly until ready to use.
2. Take a fresh flower that is ripe and about to open, carefully remove the petals and pistil.
3. Place the pollen material on the slide, add 1-2 drops of TTC Stain and cover with a coverslip.
4. Place the slide in the thermostat at 35°C for 15min and observe under low magnification microscope, take 5 fields of view for each slide.

Vigor Judgment Criteria

1. Red color means strong vitality.
2. Light red means weak vigor.
3. Colorless means no vitality or sterility.

Pollen Vigor Calculation Formula

Observe and count 100 pollen grains to calculate the percentage of viable pollen. The calculation formula is as follows :

Percent pollen viability (%) = Number of viable pollen / 100 × 100%

Notes

1. The color should be observed under the microscope immediately after dyeing, and will fade if left for a long time.
2. TTC Stain should be used as soon as possible after opening the lid, otherwise the efficiency will decrease, and

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should be discarded if it turns red.

3. The pollen needs to be completely submerged in the staining solution when staining.

4. The dyeing temperature is generally 25-35°C.

5. For your safety and health, please wear lab coat and disposable gloves for operation.

Sample Type

Pollen from fresh flowers that are ripe and about to open

Storage

Store at 4 °C, away from light

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