V02

花粉活力染色液(TTC法)

货号：G4800
规格：10mL/50mL
保存：2-8℃, 避光保存, 有效期 1 年。

产品介绍：

花粉活力的大小直接影响授粉、受精过程，与植物的产量密切相关，通过花粉活力的测定，可了解花粉的可育性，并掌握不育花粉的形态、生理特征。TTC 是标准氧化电位为 80mV 的氧化还原色素，溶于水中形成无色溶液，还原后生成红色不溶于水的三苯基甲臜(TTF)，该物质比较稳定，不易被氧化，所以 TTC 被广泛用于酶实验的氢受体。TTC 还原量能表示脱氢酶活性，进而判断植物根系或花粉活力。

自备材料：

载玻片、盖玻片、恒温箱或水浴锅、光学显微镜

操作步骤：(*仅供参考*)

1、取成熟将要开放的新鲜花朵，小心去除花瓣和雌蕊释放花粉物质。
2、将花粉物质置于载玻片中央，滴加 1-2 滴花粉活力染色液(TTC 法)，盖上盖玻片或者取 0.5-1ml 花粉活力染色液(TTC 法)加入 1.5ml 离心管中，向离心管中加入花粉物质，使其完全浸于染色液并充分混匀。（*见注意事项 2*）
3、37℃恒温箱放置避光染色 30-45min，低倍显微镜下观察，每片取 5 个视野。（*见注意事项 3*）

染色结果：

活力强	红色
活力弱	淡红色
无活力或不育	无色

计算：

观察统计 100 粒花粉，计算有活力花粉的百分数。
其公式为：花粉活力百分数(%)=有活力花粉数/100×100%

注意事项：

1、染完色后，应立即显微镜下观察。
2、染色时需要将花粉完全浸没于染色液中。
3、37℃恒温染色效果明显优于室温染色结果，如果觉得染色浅，染色时间可以延长至 1h。
4、为了您的安全和健康，请穿实验服并戴一次性手套操作。

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Pollen Viability Stain Solution (TTC Method)

Cat: G4800
Size:10mL/50mL
Storage:2-8℃, avoid light, valid for 1 year.

Introduction

The activity of pollen directly affects the process of pollination and fertilization, which is closely related to the yield of plants. Through the determination of pollen vigor, we can understand the development of pollen and master the morphological and physiological characteristics of sterile pollen. TTC is a redox pigment with a standard oxidation potential of 80 mV. A colorless solution is formed by dissolving in water, and a red insoluble triphenylmethane (TTF) is formed after reduction. TTC is widely used as hydrogen acceptor in enzyme experiments because it is stable and difficult to be oxidized. TTC reduction can express the activity of dehydrogenase, and then judge the activity of plant root or pollen.

Self Provided Materials

Slide,Incubator or Water Bath,Microscope

Protocol(*for reference only*)

1. Take fresh flowers that are about to open when they are ripe. Carefully remove petals and pistils to release pollen substances.
2. Put the pollen substances on the center of the slide, add 1-2 drops of Pollen Viability Stain Solution (TTC Method), cover the cover glass or take 0.5-1mL of Pollen Viability Stain Solution (TTC Method) and add it into a 1.5ml centrifuge tube. Add pollen material to the centrifuge tube until it is completely immersed in the staining solution and thoroughly mixed. (*See Note 2*)
3. Incubate at 37℃ incubator for 30-45min. Observe under low power microscope, taking 5 visual fields from each slice.(*See Note 3*)

Result

Strong Vitality	Red
Low Vitality	Light Red
No Vitality or Sterility	Colourless

Calculation

Observe and count 100 pollens and calculate the percentage of active pollens.
The formula is: Percentage of pollen activity (%) = Number of active pollen / 100 × 100%

Note

1. After dyeing, observe under microscope immediately.
2. It is necessary to immerse the pollen completely in the staining solution.
3. The effect of 37℃ constant temperature staining is significantly better than that of room temperature staining. If the staining is found to be light, the staining time can be extended to 1 hour.
4. For your safety and health, please wear experimental clothes and disposable gloves.