



Strategic Diagnostics Inc.



Part of SDI's family of food safety products



## Seed✓ PMI Test Strips

Part Number 7000052

Leaf Testing



### Intended Use

The intended use of the kit is the qualitative (yes/no) determination of the PMI protein in Positech® leaf samples.

### Product Description

The Seed✓ PMI Test Strip detects the phosphomannose isomerase (PMI) protein expressed by a gene derived from *E. coli*. These genes have been incorporated into corn, wheat and other crops including Positech® brands from Syngenta as a selectable marker. The lateral flow test strip has been optimized to easily detect the PMI protein expressed in leaf tissue. The lateral flow strips in this package are sufficient to detect the presence or absence of the PMI protein in up to 50 leaf samples.

### Principle of the Assay

The assay uses a double antibody sandwich format. Antibodies specific to the PMI protein are coupled to a color reagent and incorporated into the lateral flow strip. When the lateral flow strip is placed in a small amount of an extract from plant tissue that contains PMI protein, binding occurs between the coupled antibody and the protein. A sandwich is formed with some, but not all the antibody that is coupled to the color reagent. The membrane contains two capture zones, one captures the bound PMI protein and the other captures color reagent. These capture zones display a reddish color when the sandwich and/or unreacted colored reagents are captured in the specific zones on the membrane. The presence of only one line (control line) on the membrane indicates a negative sample and the presence of two lines indicates a positive sample.

### Contents of Kit

Seed✓ PMI Test Strips

### Quantity

50

### Materials Required but not Supplied for Seed & Leaf Testing:

Trait✓ Sample Buffer (7000006)

Sample tubes, 1.5 mL (3000411)

### Storage and Preparation of Reagents

The Trait✓ sample extraction buffer for this kit is shipped as a concentrate. Follow the procedure below to prepare the sample extraction buffer.

1. Pour the contents of a one (1) liter bottle of Trait✓ Sample Buffer Concentrate (P/N 7000006) into an 8-liter carboy or other suitable container.
2. Add four (4) liters of water to the sample buffer. Tap water may be used.
3. Mix well and label as Trait✓ Sample Buffer. Label buffer expiration as thirty (30) days from date of preparation.

The Seed✓ PMI Test Strips can be stored at room temperature. Do not freeze. Once opened the Seed✓ PMI lateral flow test strips must be stored in the closed desiccant canister with the moisture-indicating card. The moisture-indicating card must be blue in color. If the moisture-indicating pack is pink, contact SDI Technical Service. Storage conditions higher than room temperature may adversely affect performance.

### Purpose

The Seed✓ PMI Test Kit has been designed to screen leaf samples for the presence of the PMI protein. Sample preparation procedures are outlined below. Please refer to the instructions to be sure that all of the necessary materials are available prior to testing.

### Leaf Sample Preparation

1. Place a fresh leaf between the body and cap of a 1.5 mL sample tube and snap the cap into place.
2. Open the cap and remove the excess leaf tissue from around the tube opening.
3. Push the leaf tissue discs into the tube with a stirrer. (This provides about 10-30 mg of leaf tissue. The appropriate amount of tissue may be obtained by other means.)
4. Add about 0.5 mL (to the top of the tapered part of the tube) of Sample Buffer to the sample tube containing the leaf sample.
5. Macerate the leaf material with a clean stirrer for about a minute.
6. Insert the labeled Filter Cover of the Seed✓ PMI lateral flow test strip into the sample tube containing the leaf sample extract. The arrows on the filter cover should point into the tube. Allow the test strip to remain in the tube in an upright position for 10 minutes.
7. Proceed to *Interpreting the Lateral Flow Test Strip*.

**Caution:** The Seed✓ PMI test is sensitive. Be careful to not contaminate the leaf sample discs by touching them with your fingers, a stirrer or other material that may have touched another leaf sample.

**Note:** Some leaf samples may produce a light brown or greenish-yellow color at the test line. **This is a negative result.** A positive result produces a distinct reddish color.

### Interpreting the Lateral Flow Strip Test

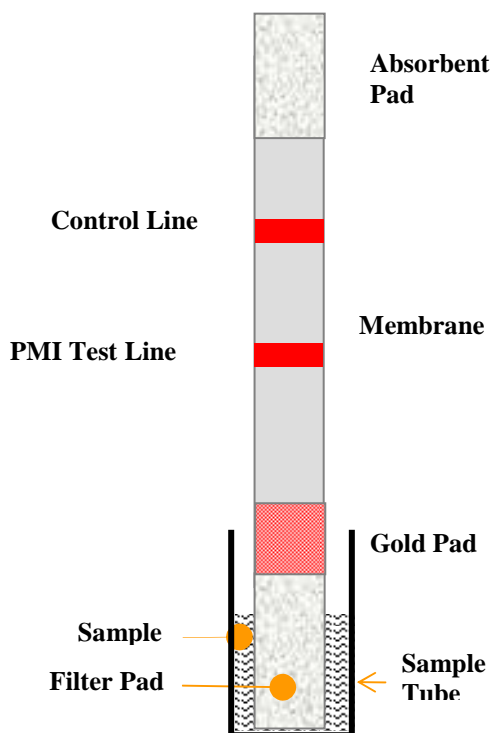
Check the test strips 10 minutes after inserting the strip. At least one line, the Control Line, should always develop approximately one (1) cm down from the Absorbent Pad. A red line in this position indicates that the strip is functioning properly. A red line appearing below the Control Line is the PMI Test Line and indicates a positive result for PMI protein. If the test strip displays two (2) red lines, the test is complete and the sample is positive for the PMI marker. If at 10 minutes the test strip only shows a clearly visible Control Line, then the sample is negative for the PMI marker. If no control line develops, the result is inconclusive and need to be repeated.

### Illustration of Positive and Negative Results



Example of an unreacted, negative (1-line) and positive (2-lines) test strip

### Illustration of a Lateral Flow Strip



**Warranties and Liabilities**

Strategic Diagnostics Inc. (“SDI”) warrants the Products manufactured by it will be free of defects in materials and workmanship when used in accordance with the applicable instructions for a period equal to the shorter of one year from date of shipment of the Product(s) or the expiration date marked on the Product packaging. Application protocols published by SDI are intended to be only guidelines for the Buyers of the Products. Each Buyer is expected to validate the applicability of each application protocol to in their individual applications. **SDI MAKES NO OTHER WARRANTY, EXPRESSED OR IMPLIED. THERE IS NO WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.**

SDI’s sole obligation with respect to the foregoing warranties shall be, at its option, to either replace or to refund the purchase price of the Product(s) or part thereof that proves defective in materials or workmanship within the warranty period, provided the customer notifies SDI promptly of any such defect. **SDI SHALL NOT BE LIABLE FOR ANY DIRECT, INDIRECT OR CONSEQUENTIAL DAMAGES RESULTING FROM ECONOMIC LOSS OR PROPERTY DAMAGES SUSTAINED BY BUYER OR ANY CUSTOMER FROM THE USE OF THE PRODUCT (S).**

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