

## INSTRUCTION FOR USE

### Rapid Lateral Flow Strip (LFS) for detection of CP4 EPSPS in Cotton/Corn/Soybean/Canola Leaf and Seed Cat No. AID 025



## 1 INTENDED USE

CP4 EPSPS (RR) Lateral Flow Strips (LFS) test kit is intended to be used for the qualitative detection of CP4 EPSPS protein in individual cotton/corn/soybean/canola leaf and seed samples. The total incubation time of the assay is 5 minutes.



## 2 PRINCIPLE OF THE TEST

An antibody specific to the CP4 EPSPS protein molecule is immobilized on the test line area of nitrocellulose membrane. Second antibody specific for CP4 EPSPS molecule is conjugated with colloidal gold and incorporate in the sample area of lateral flow strip. Anti mouse IgG is immobilized on the control line area of the LFS.

When the LFS is placed in the sample extract, the CP4 EPSPS protein present in the sample extract binds to the antibody labelled with gold nano particles and the complex moves upward by capillary action. The complex then binds to the antibody coated on the test line resulting in pink/purple color test line. As the complex moves further up, it binds to the control line resulting in pink/purple color control line. In absence of CP4 EPSPS, the test line does not appear as no complex binds to the test line while control line turns pink/purple color indicating validity of test protocol.

## 3 CROSS-REACTIVITY

The CP4 EPSPS LFS kit does not cross react with Cry1F, Cry1Ac, eCry3.1Ab (AgriSure Duracade™), Cry3Bb, Cry1Ab, Cry2A, Vip3A, Cry34Ab1, Cry35Ab1 or PAT (Liberty Link\*\*\*)

## 4 CONTENTS OF THE KIT: KIT IS SUFFICIENT FOR 100 TESTS

- CP4 EPSPS LFS Kit 100 strips
- Two Calibrated droppers
- One Pack Insert
- 100 Microfuge tube (optional)
- 100 ml Extraction Buffer

## 5 MATERIAL AND EQUIPMENT REQUIRED BUT NOT PROVIDED

- Pair of scissors
- Timer
- Marking pen and Paper towels
- Micro Pestles

## 6 PRECAUTIONS

The CP4 EPSPS LFS kit is intended for *in-vitro* use only. The reagents contain sodium azide as preservative. Prevent direct skin and eye contact with kit components. Seek medical attention in case of accidental ingestion of kit components.

## 7 STORAGE OF THE KIT

1. The kit should be stored at 2 - 8° C.
2. The unopened kit is stable till the expiry date printed on the kit label.
3. The cap of the canister should be closed firmly after removing the required strips.
4. Exposure to moisture is likely to affect the performance of the test strips.
5. The kit should not be frozen.

## 8 SAMPLE PREPARATION

### 1. Extraction of seed tissue:

- Crush single seed and transfer it to 1.5 ml microfuge vial.
- Add 1.0 ml of Extraction buffer.
- Mix well and wait for five minutes.

### 2. Extraction of Leaf tissue:

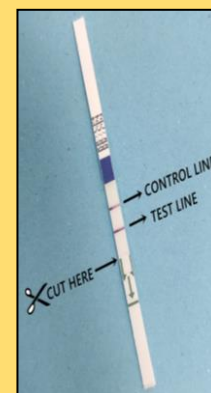
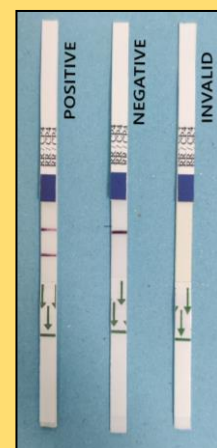
- Take two leaf punch (approximate weight 20 mg) and transfer it to 1.5 ml microfuge tube.
- Grind the leaf tissue with pestle until the leaf tissue is well ground. Add 0.5ml of extraction buffer.
- Mix well and wait for 5 minutes.
- Use new pestle for each leaf sample to avoid cross contamination.

## 9 ASSAY PROCEDURE

1. Allow canister to come to room temperature before opening. Remove the desired number of strips.
2. Insert one strip in each tube containing sample. Part of the strip showing arrow should be dipped in sample extract.
3. Allow the test strip to remain in the microfuge tube in vertical position for 5 minutes.
4. Remove the strips and observe the results immediately. Positive sample results may appear much earlier than 5 minutes.
5. For permanent storage of strips, cut off the bottom section of the strip covered with arrow using pair of scissors.

## 10 INTERPRETATION OF LFS RESULTS

1. Read the strip immediately after 5 minutes.  
Consider the results as
  - **NEGATIVE:** Visible control line, no test line.
  - **POSITIVE:** Visible control and test Line.
  - **INVALID:** No control line and no test line.
  - **INVALID:** No control and visible test line
2. The appearance of faint test line after 5 minutes should not be necessarily interpreted as positive test.



## 11 NOTES

1. The procedure instructions should be strictly followed to get accurate results. Change in procedure may lead to wrong results.
2. This kit has been optimized for cotton/corn/soybean/canola leaf and seed only.  
(working samples : extracted cotton/corn/canola/soybean samples).
3. Cross contamination between different microfuge tubes/samples will lead to wrong results.
4. This kit is meant for screening for presence or absence of CP4 EPSPS in individual cotton/corn/soybean/canola leaf and seed.
5. When in doubt, please confirm results with an alternate method.

## 12 WARRANTY

Gold Standard Diagnostics Hyderabad warrants that the products sold hereunder (“the Product”) are defect- free in material and workmanship, provided they are used in accordance with the prescribed instructions before the expiry of the products as printed on the product label. The customer should notify Gold Standard Diagnostics Hyderabad in writing of Warranty defects during the warranty period, including an offer by the customer to return the Products to Gold Standard Diagnostics Hyderabad for evaluation. Gold Standard Diagnostics Hyderabad will repair or replace, at its sole option, any product or part thereof that proves defective in materials or workmanship within the warranty period. This warranty also does not apply to Products to which changes or modifications have been made or attempted by persons other than pursuant to written authorization by Gold Standard Diagnostics Hyderabad.

## 13 THIS WARRANTY IS EXCLUSIVE

The sole and exclusive obligation of Gold Standard Diagnostics Hyderabad shall be to repair or replace the defective Products in the manner and for the period provided above. Gold Standard Diagnostics Hyderabad shall not have any other obligation or liability, whatsoever it may be, with respect to the Products or any part thereof. Under no circumstances, whatsoever the circumstances may be, shall Gold Standard Diagnostics Hyderabad be liable for incidental, special, or consequential damages. If any part of this Warranty is determined to be void or illegal, the remainder shall remain in full force and effect.

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\*\*Bollgard & Roundup Ready are registered trademarks of the Monsanto Company.

\*\*\*Liberty Link is a registered trademark of Bayer Crop Science.

## TECHNICAL SUPPORT SERVICE

For technical assistance and more information please contact the  
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Customer Service or your local distributor.

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