

Rapid lateral flow strip (LFS) for detection of Cry1F in bulk grain corn

Cat No. AID 050

Intended use

Cry1F lateral flow strips (LFS) test kit for bulk grain corn is intended to be used for the qualitative detection of Cry1F protein present in corn. The kit detects one Cry1F corn seed in 200 conventional corn seeds (0.5%)

The total incubation time of the assay is 10 minutes.



Bulk grain corn

Principle of the test

An antibody specific to the Cry1F protein molecule is immobilized on the test line area of nitrocellulose membrane. Second antibody specific for Cry1F molecule is conjugated with colloidal gold and incorporated 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 Cry1F protein present in the sample extracts 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 Cry1F, 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.

Cross reactivity

The Cry1F test kit does not cross react with CP4EPSPS, Cry1Ac, Cry1Ab, Cry2A, Vip3A, Cry34Ab, Cry35Ab1, Cry3B, mCry3A, eCry3.1Ab and PAT (Liberty Link***).

Contents of the kit: Kit is sufficient for 100 tests

Cry1F LFS strips 50 strips per canister. Two canisters per kit

Pack insert One

Material and equipment required but not provided

- ❖ Waring blender
- ❖ Graduated cylinder
- ❖ Glass jars
- ❖ Dropper
- ❖ water
- ❖ Pair of scissors
- ❖ Timer
- ❖ Microfuge tubes

Precautions

The Cry1F 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.

Storage of the kit

The kit should be stored at 2 - 8° C. The unopened kit is stable till the expiry date printed on the kit label. The cap of the canister should be closed firmly after removing the required strips. Exposure to moisture is likely to affect the performance of the test strips.

The kit should not be frozen.

Sample preparation guideline

Please use following link as a guideline to decide sampling strategy
<http://www.archive.gipsa.usda.gov/biotech/sample1.htm>

Practical application of sampling for the detection of Biotech grains

To detect (0.5%) Cry1F corn at 95 % confidence, it is necessary to have 3 sub samples of 200 corn seeds each and all three sub samples should test negative. Weight of 200 corn seeds is 50 gm.



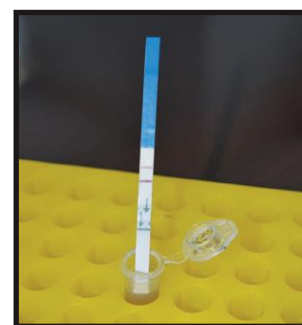
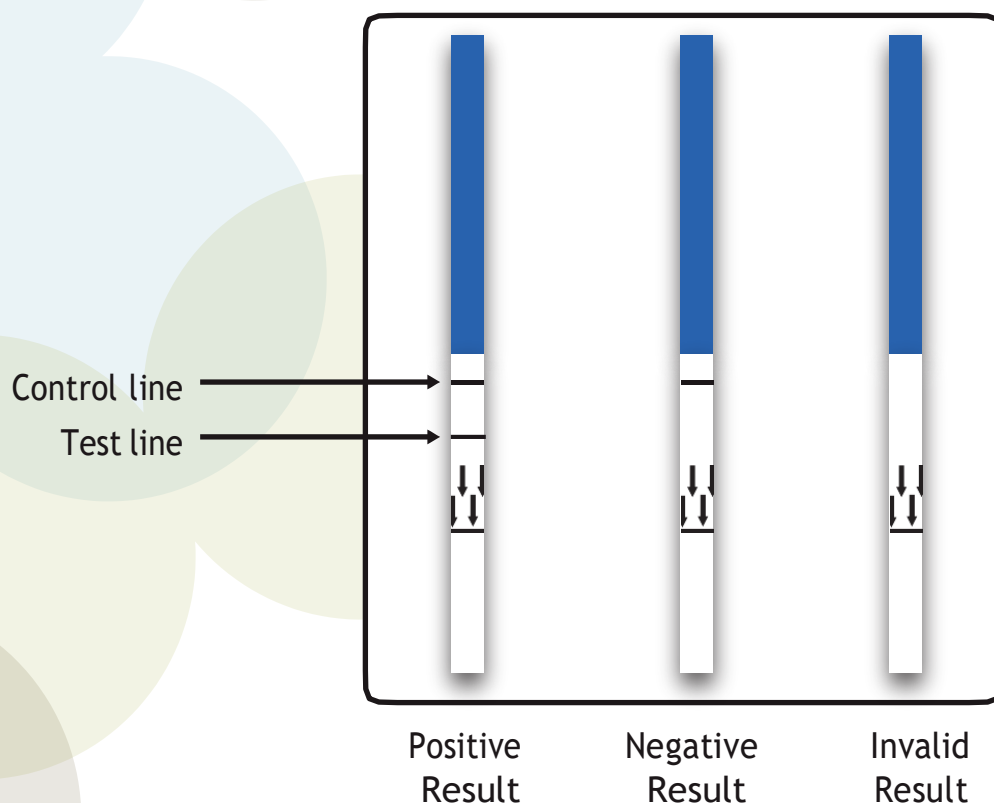
Grinding into powder using a blender

Sample preparation

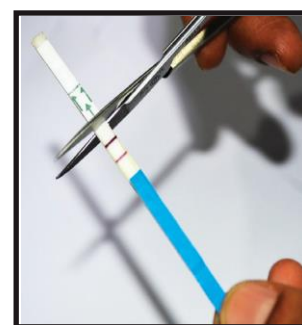
1. Weigh corn seeds (Approximate weight of one corn seed is 0.25 gm) in to appropriate size jar.
2. Place cover on the jar and grind it in a blender on high speed for 45 seconds or till fine grain powder is observed.
3. Add required quantity of water to the jar (For 100 gm seeds, add 150ml water)
4. Shake jar vigorously till entire sample is properly mixed. Allow sample to settle following which liquid from top can be collected. Draw 0.5 ml sample using calibrated dropper and transfer it to 1.5 ml microfuge tubes.

Assay Procedure

1. Allow canister to come to room temperature before opening it to remove the desired number of strips.
2. Insert one strip in each sample. Part of the strip showing arrow should be dipped in sample extract. Allow the test strip to remain in the microfuge tube in vertical position for 10 minutes.
3. Remove the strip and observe the result. Positive sample result may appear much earlier than 10 minutes.
4. For permanent storage of strips, cut off the bottom section of the strip covered with arrow using pair of scissors.



LFS Strip in Sample



Cutting of strip for permanent record and storage

Interpretation of LFS results

Read the strip in 10 minutes.

Presence of control line in 10 minutes indicates that the strip has performed properly. The absence of control line in 10 minutes makes test invalid and should be repeated.

If the extract is from sample containing at least 0.5% Cry1F Corn (one Cry1F Corn in 200 conventional Corn), the test line will appear and hence sample should be treated as positive.

The appearance of faint test line after 10 minutes should not be necessarily interpreted as positive test.

Notes

- ❖ The procedure instructions should be strictly followed to get correct results. Change in procedure may lead to wrong results.
- ❖ The kit is intended for testing on Corn samples only (working samples : extracted Corn samples.
- ❖ Cross contamination between different samples during sample preparation will lead to wrong results.
- ❖ This kit is meant for screening for presence or absence of Cry1F in bulk grain corn seeds at 0.5 % level.
- ❖ Experienced laboratory technologist may be able to observe a faint test line at level below 0.5% level.
- ❖ When in doubt, please confirm results with an alternate method.

WARRANTY

Eurofins Amar Immunodiagnostics Pvt. Ltd. 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 Eurofins Amar Immunodiagnostics in writing of Warranty defects during the warranty period, including an offer by the customer to return the Products to Eurofins Amar Immunodiagnostics for evaluation. Eurofins Amar Immunodiagnostics 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 Eurofins Amar Immunodiagnostics

THIS WARRANTY IS EXCLUSIVE

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***Liberty Link is a register trademark of Bayer Crop Science.

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