

QuickStix™ Combo Comb Kit for Multi-Trait Testing Cry1Ac/Cry2Ab/CP4 EPSPS/DMO/Vip3A Cotton Seed

Highlights:

- Recognizes Cry1Ac, Cry2Ab, CP4 EPSPS, DMO and Vip3A proteins
- Results in 10 minutes or less
- Strips in convenient comb format

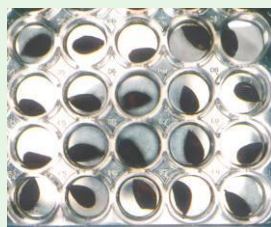
Contents of Kit:

- 48 QuickStix Combo Strips assembled as 6 combs of 8 strips packaged in a foil bag
- EB2 Extraction Buffer

Items Not Provided:

- Seed crusher
- Repeating pipetter or other means of dispensing 0.75 mL per well

Contact EnviroLogix to order bulk-packaged combs. Bulk kits include EB2 Extraction Buffer Concentrate. To prepare, mix 50 mL 20X Concentrate with 950 mL of distilled or deionized water per liter required. Store refrigerated when not in use; allow to come to room temperature before using.



Load seeds in wells, crush



Add Extraction Buffer

Catalog Number AS 096 STC

Intended Use

The EnviroLogix QuickStix Combo Comb Kit for Multi-Trait Testing is designed to detect the presence of Cry1Ac, Cry2Ab, CP4 EPSPS (5-enolpyruvylshikimate-3-phosphate synthase from *Agrobacterium* sp. strain CP4), DMO (Dicamba Monooxygenase), and Vip3A typically expressed in genetically modified cotton seed. The combo strips will recognize these proteins in separate regions of the same strip when the Combo Strip is used on single seed.

How the Test Works

Cotton plants and seeds that have been genetically modified with stacked genes express transgenic proteins in their seed. To detect these proteins with the Combo Comb Strips, the sample must be extracted and the proteins solubilized in the Extraction Buffer provided.

Each Combo Strip has an absorbent pad at each end. The protective tape with the arrow indicates which end of the strip to insert into the sample. The sample travels up the membrane strip and is absorbed into the larger pad at the top of the strip. The portion of the strip between the protective tape and the absorbent pad at the top of the strip is used to view the reactions as described under “Interpreting the Results”.

Sample Preparation

Note: If Extraction Buffer has been refrigerated, allow it to warm up to room temperature before preparing samples.

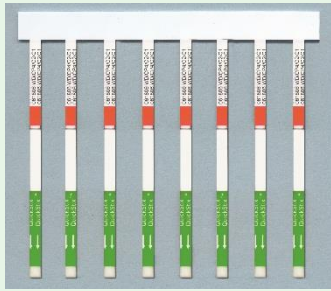
1. Load individual delinted cotton seeds into each of the 48 wells.
2. Crush seeds with hydraulic press or equivalent.
3. The crushed state of the seed is visible through the bottom of the plate or by gently lifting the crusher. Gently shake the crusher while lifting to dislodge any seed. Use extreme care, do not cross-contaminate the wells! **Clean crusher prongs prior to using on the next plate.**
4. Add 0.75 mL of Extraction Buffer to each well and cover.
5. Mix covered plate on orbital shaker or equivalent for 3 minutes. Remove and discard the plate cover. The extract takes on a yellow to brown opaque color when the seeds are crushed and mixed properly. If the extract is clear, the seed coat may be empty or the sample may not be well mixed. The seeds should contain an adequate amount of mature endosperm and embryonic tissues, not empty seed coats.
6. Use crushed seed samples the same day they are prepared.

To improve extraction efficiency:

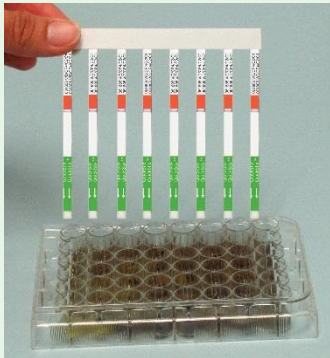
1. Use room temperature buffer to extract the seeds.
2. Longer soak times can increase the strength of the Test Line (better extraction).
3. If seed material gets stuck to the plate bottom, use the QuickStix to gently mix the extract as soon as you insert it into the well.

How to Run the QuickStix Comb Test

1. Allow refrigerated foil bag to come to room temperature before opening. Remove the QuickStix Combo Combs to be used. A blank space is provided to label each Comb if desired. Avoid bending the strips.
2. Place the combs into the wells with the colored tape facing you. The sample will travel up the strip.
3. Allow the strip to develop for 10 minutes before making final assay interpretations. Positive sample results may become obvious much more quickly.
4. Remove the Comb from the wells to read. Strips should be discarded after use.



Remove QuickStix Comb(s)



Insert Combs into plate

Any clearly discernible pink Test Line(s) below the control indicate(s) a positive result for the trait

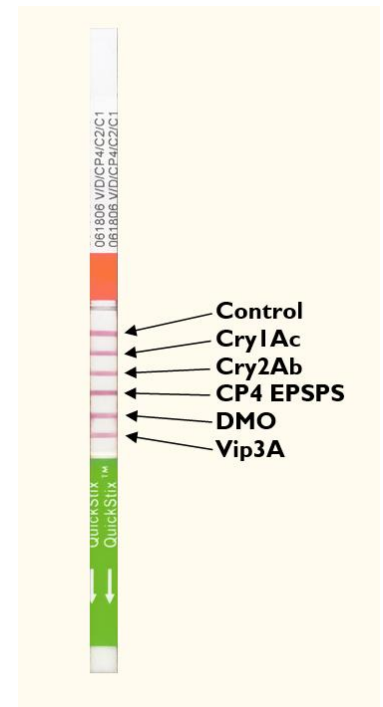
Interpreting the Results

Development of the Control Line within 10 minutes indicates that the strip has functioned properly. Any strip that does not develop a Control Line should be discarded and the sample re-tested using another strip.

One Line – If the extract is from a negative sample, containing none of the target proteins, the strip will only show the Control Line, about 4 mm below the top pad.

Two to Six Lines – If the extract is from a sample containing Cry1Ac, Cry2Ab, CP4 EPSPS, DMO, and/or Vip3A proteins, the appropriate test line(s) will appear. Samples containing fewer than all five traits will show only the appropriate Test Lines. Refer to the interpretation guide shown on the right.

Please note that for ease of interpretation, the labels on each strip list the proteins in the order that their Test Lines appear, bottom (arrow end) to top (lot number end).



Kit Storage

This Kit can be stored at room temperature (18°C to 24°C), or refrigerated (4°C to 8°C) for a longer shelf life. Please note the shelf life on the kit box for each storage temperature. The kit may be used in field applications, however, do not expose kit to temperatures above 45°C. Do not open the foil bag until ready to use the test strips.

Precautions and Notes

- This kit is designed for screening for presence or absence only and is not meant to be quantitative.
- This product is currently not applicable for use in any other crop than cotton.
- As with all tests, it is recommended that results be confirmed by an alternate method when necessary.



- The assay has been optimized to be used with the protocol and with the buffer provided in the kit. Deviation from this protocol may invalidate the results of the test.
- A negative result with this kit does not mean that the sampled tissue has not been otherwise genetically modified.
- A strong positive result may safely be interpreted in as little as 2 minutes after the strip is placed into the sample. It is not safe, however, to conclude that a sample is negative before a full 10 minutes has elapsed. A weak positive sample may require the full 10 minutes for a distinct Test Line to appear.
- Protect all components from hot or cold extremes of temperature when not in use. Do not leave in direct sunlight or in vehicle. Do not freeze.



**For Technical Support
Contact Us At:**

EnviroLogix
500 Riverside Industrial
Parkway
Portland, ME 04103-1486
USA

Tel: (207) 797-0300
Toll Free: 866-408-4597
Fax: (207) 797-7533

e-mail:
info@envirologix.com

website:
www.envirologix.com



LIMITED WARRANTY

EnviroLogix Inc. (“EnviroLogix”) warrants the products sold hereunder (“the Products”) against defects in materials and workmanship when used in accordance with the applicable instructions for a period not to extend beyond a product’s printed expiration date. If the Products do not conform to this Limited Warranty and the customer notifies EnviroLogix in writing of such defects during the warranty period, including an offer by the customer to return the Products to EnviroLogix for evaluation, EnviroLogix will repair or replace, at its option, any product or part thereof that proves defective in materials or workmanship within the warranty period.

ENVIROLOGIX MAKES NO OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. The warranty provided herein and the data, specifications and descriptions of EnviroLogix products appearing in EnviroLogix published catalogues and product literature are EnviroLogix’ sole representations concerning the Products and warranty. No other statements or representations, written or oral, by EnviroLogix’ employees, agents or representatives, except written statements signed by a duly authorized officer of EnviroLogix Inc., are authorized; they should not be relied upon by the customer and are not a part of the contract of sale or of this warranty.

EnviroLogix does not warrant against damages or defects arising in shipping or handling, or out of accident or improper or abnormal use of the Products; against defects in products or components not manufactured by EnviroLogix, or against damages resulting from such non-EnviroLogix made products or components. EnviroLogix passes on to customer the warranty it received (if any) from the maker thereof of such non-EnviroLogix made products or components. 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 EnviroLogix.

THIS WARRANTY IS EXCLUSIVE. The sole and exclusive obligation of EnviroLogix shall be to repair or replace the defective Products in the manner and for the period provided above. EnviroLogix shall not have any other obligation with respect to the Products or any part thereof, whether based on contract, tort, strict liability or otherwise. Under no circumstances, whether based on this Limited Warranty or otherwise, shall EnviroLogix be liable for incidental, special, or consequential damages.

This Limited Warranty states the entire obligation of EnviroLogix with respect to the Products. If any part of this Limited Warranty is determined to be void or illegal, the remainder shall remain in full force and effect.

EnviroLogix, the EnviroLogix logo, and QuickStix are trademarks of EnviroLogix Inc.

© EnviroLogix 2017