



Hygiena® CrossCheck

Phosphatase Activity Test

Product No. CX-3000 (100 tests)

Introduction

Description and Intended Use

Hygiena® CrossCheck devices are rapid bioluminogenic tests for the determination of residual phosphatase activity. Test results are measured in less than 5 minutes.

Phosphatase enzymes are a natural component of raw meat and fish that can harbor several types of pathogenic, food-poisoning bacteria. Proper cooking destroys both phosphatase activity and bacteria. Therefore, CrossCheck devices may be used for:

1. Monitoring the cleanliness of surfaces that may have contacted raw meat and assessing potential risk from cross-contamination.
2. Measuring phosphatase activity levels in cooked meats to verify cooking effectiveness.

Principle

CrossCheck devices consist of a self-contained collection and test device containing chemiluminescent reagents. A substrate in the reagent is broken down by phosphatase enzymes in the sample, initiating a light reaction. The amount of light generated is directly proportional to the amount of phosphatase present in the sample. CrossCheck tests are very sensitive and can detect small amounts of residue (0.1% or less) from raw meat and fish in 2 – 5 minutes.

Required Materials (Not Provided)

- EnSURE® Touch or SystemSURE Plus® luminometer (Product No. ETOUCH or SS3, respectively)
- When using the optimum incubation procedure:
 - Dry Block Incubator (at 37 ± 0.5 °C) (Product No. INCUBATOR or INCUBATOR2)
 - Block options for incubators:
 - 35 wells for swabs for INCUBATOR2 (Product No. IB001)
 - 12 wells for swabs for INCUBATOR (Product No. IB003)

Important Tips and Notes Before Starting the Test

- Allow CrossCheck devices to equilibrate to 20 to 25 °C (room temperature) for 10 minutes before use.
- The swab tip is pre-moistened for maximum sample collection.
- Condensation may be visible on the inside of the swab tube; this is normal.



Test Procedure

1. Shake the test device by tapping on the palm of your hand 5 times to bring the solution to the bottom of the tube.
2. Holding the swab tube firmly, twist and pull the top of the swab out of the tube. Then, thoroughly swab a standard 10 x 10 cm (4 x 4 inch) area for a typical flat surface.

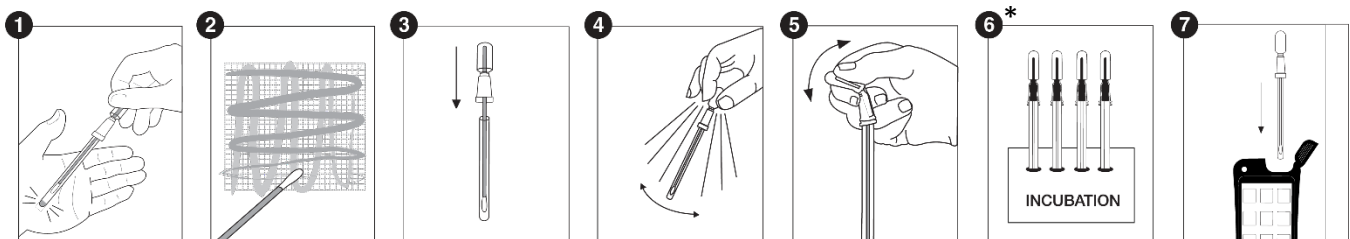
Important swabbing technique tips:

- a. Apply sufficient pressure to create flex in the swab shaft.
 - b. Swab in a crisscross pattern vertically, horizontally and diagonally in both directions.
 - c. Rotate the swab while collecting the sample to maximize sample collection on the swab tip.
 - d. For irregular surfaces, ensure the swabbing technique remains consistent for each test and swab a large enough area to collect a representative sample.
3. Place the swab back into the swab tube.
 4. Shake the tube gently to mix the sample with the solution in the tube.
 5. To activate the device, hold the swab tube firmly and use your thumb and forefinger to break the Snap-Valve by bending the bulb forward and backward. Squeeze the bulb twice to expel all the liquid down the swab shaft.
 6. Perform the incubation based on your established procedures:
 - a. *Optimum procedure:* Incubate for 5 minutes \pm 10 seconds at 37 ± 1 °C.
 - b. *Quick test:* Store upright for 2 minutes at 20 to 25 °C.

Note: During the incubation time, turn on the luminometer. If the luminometer has been programmed, select the appropriate program number.

7. Shake the device for 5 seconds to mix the sample and reagent, and immediately insert the CrossCheck device into the Hygiena luminometer:
 - a. If using the EnSURE Touch luminometer, close the lid and press "Run Test" to initiate the measurement. Results will be displayed in 10 seconds.
 - b. If using the SystemSURE Plus luminometer, close the lid and press "OK" to initiate the measurement. Results will be displayed in 15 seconds.

Note: Measure the test device only once.



* Step 6: Incubation conditions vary for the optimum (5 minutes, 37 ± 1 °C) and quick test (2 minutes, 20 to 25 °C) procedures.



Additional Information

Interpretation of Results

Results are displayed as RLUs (relative light units). Pass/fail limits for both optimum and quick test procedures are shown in Table 1.

Table 1. Pass/Fail Limits for Hygiena Luminometers.

RLUs	
Pass (Negative)	Fail (Positive)
0 – 3	4+

The following representative data show the detection limits of phosphatase by CrossCheck swabs using dilutions of raw chicken contamination and either the optimum (Table 2) or quick test (Table 3) procedures.

Table 2. Optimum Test Procedure: % Chicken Detection Limits.

% Chicken	RLUs		Interpretation
	EnSURE Touch	SystemSURE Plus	
10	1,467	734	Positive
1	146	73	Positive
0.10	15	8	Positive
0.01	1	1	Negative
0	0	0	Negative

Table 3. Quick Test Procedure: % Chicken Detection Limits.

% Chicken	RLUs		Interpretation
	EnSURE Touch	SystemSURE Plus	
10	116	58	Positive
1	21	11	Positive
0.10	1	1	Negative
0.01	0	0	Negative
0	0	0	Negative

Storage and Shelf Life

- Store at 2 to 8 °C (36 to 46 °F).
- Store CrossCheck devices out of direct sunlight.
- Do not use past the expiration date on the label.

Disposal

CrossCheck devices should be disposed of in compliance with Good Laboratory Practice and local Health and Safety regulations.



Safety and Precautions

- Components of CrossCheck devices do not pose any health risk when used in accordance with standard laboratory practice and procedures in this insert.
- CrossCheck devices are for one-time use. Do not reuse.
- For further safety instructions, refer to the Safety Data Sheet (SDS) available at www.hygiena.com/sds.

Hygiena Liability

Hygiena will not be liable to the user or others for any loss or damage, whether direct or indirect, incidental or consequential, from use of these devices. If this product is proven to be defective, Hygiena's sole obligation will be to replace the product or at its discretion, refund the purchase price. Promptly notify Hygiena within 5 days of discovery of any suspected defect and return the product to Hygiena; contact Customer Service for a Returned Goods Authorization Number.

Contact Information

For more information, visit www.hygiena.com/contact. For technical support, visit www.hygiena.com/support.