

# Directions for Use of ZymoSnap PRO Collection and Detection devices



Catalog Number: ZS-PRO

## Parts Required:

- ZymoSnap PRO Collection Device (Part # ZSPRO50C)
- ZymoSnap PRO Detection Device (Part # ZSPRO50D)

## Description/ Intended Use:

ZymoSnap PRO is a rapid bioluminescent test method for the detection of Subtilisin, giving results in about 5 minutes. The test consists of a Collection Device to swab an area of concern and a Detection Device containing a bioluminescent substrate. The detection reaction is measured using a small portable luminometer.

The two step test procedure requires a short 5 minute holding period at room temperature. The action of the Subtilisin enzyme on the specific substrate in the Detection Device liberates light that is measured using a luminometer. The light output is directly proportional to the Subtilisin concentration in the sample.

ZymoSnap PRO can be used to test environmental surfaces and measuring air via filters. The test is intended to be used by an analyst with experience in aseptic technique in a laboratory or other controlled facility.

## Applicability

Subtilisin is an allergenic enzyme used in biological washing powders. It is a very potent allergen and can cause severe injury to persons inhaling the free enzyme. Therefore it is strictly measured, monitored and controlled from the air and surfaces around the manufacturing plants during the production of products containing this enzyme.

## Material required but not provided:

- Luminometer
  - SystemSURE Plus(Hygiena)
  - EnSURE (Hygiena)

**Test Procedure: Refer to diagrams on page 2 of this insert.**

### Step 1: Collection of Sample:

#### For Environmental Surfaces:

- Allow the Collection Device and Detection Device to equilibrate to room temperature (10 minutes).
- Shake the Collection Device (ZSPRO50C) by tapping on the palm of your hand 5 times (to bring the droplets of liquid dispersed in the tube to the bottom of the tube; prior to adding the sample to the tube. This will facilitate the mixing of the sample with the solution in the tube. See diagram Step 1 A.
- Collect sample and place in the ZymoSnap PRO Collection Device (ZSPRO50C):
  - Remove the top Snap valve bulb portion of device and swab an area of interest (typically 4 x 4 inches; 10 x 10 cm). Step 1 B.
- Re insert the Snap Valve Bulb into swab tube. Step 1 C.
- Activate Device by breaking the Snap Valve pin by bending the bulb. Step 1 D.
- Squeeze the bulb to release the solution into swab tube. Ensure that most of the solution is in the bottom of the swab tube, replace bulb / swab assembly firmly to close the device. Step 1 E.
- Shake the tube gently to mix sample and Solution. Step 1 F.

### Step 2: Detection of Subtilisin:

The procedure for the detection process is described below and is also shown in the Step 2 diagrams on page 2.

- Transfer sample to the Detection Device: Aseptically remove 0.1ml from the Collection Device (ZSPRO50C) and transfer it to the Detection Device (ZSPRO50D). Step 2 A.
- Activate the Detection Device. Bend the bulb to break the Snap Valve pin. Squeeze bulb 3 times to release the reagent. Step 2 B.
- Shake gently to mix. Step 2 C.
- Hold device for 5 minutes ( $\pm$  0.5 min) at Room temperature, 21°- 25°C. Step 2 D.
- Insert the whole device into the luminometer; close the lid and holding the unit upright press "OK" button to initiate the measurement. Results will appear after the 15 second count down. Step 2 E.
- Read result as RLU (Relative Light Units) from the display on luminometer and interpret the result as directed below.

## Interpretation of Results:

The results displayed on the luminometer are in Relative Light Units (RLU). The table below shows the equivalent values of RLU measurements to concentration of Subtilisin in the sample.

Concentration of Subtilisin in sample in ng/ml	Expected Value on SystemSure Plus in RLU
300,000	8180
30,000	6525
3,000	1060
300	170
30	44
3	25
0.3	25
0.03	25

## Safety & Precautions:

Components of ZymoSnap PRO Collection and Detection Devices do not pose any health risk when used correctly. Used devices that confirm positive results may be hazardous and should be disposed of safely in compliance with Good Laboratory Practice and Health and Safety Regulations.

- Devices are designed for a single use. Do not reuse.
- Do not use devices after Expiration Date.
- Sampling should be done aseptically, to avoid cross contamination.
- Ensure proper hold time (5 minutes) at room temperature prior to reading in luminometer.
- When activating devices, ensure that all the liquid in the bulb is transferred to the tube below.

## Storage & Shelf Life:

Boxes and Bags of devices should be stored at 2°- 8°C. Devices have a shelf life of 12 months. Check expiration date on label.

## Caution and User Responsibility:

The user must train personnel in proper handling of Subtilisin samples, testing techniques and disposal.

## Hygiena Liability:

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

## Contact information:

If more information is required, please visit us at [www.hygiena.com](http://www.hygiena.com) or contact us at:

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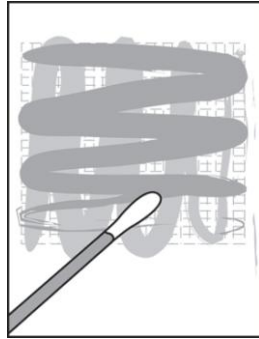
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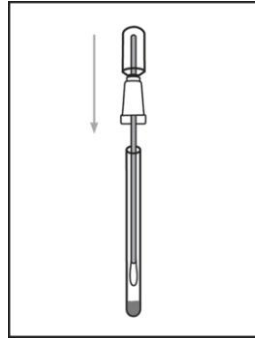
## Step 1: Collection of Sample



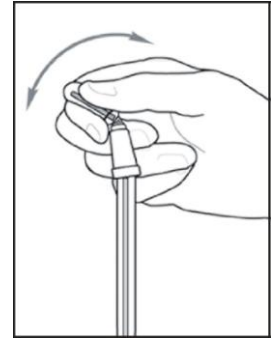
**1 A:** Allow devices to equilibrate to room temperature. Shake tube by tapping on the palm of your hand 5 times to bring liquid in tube to the bottom of the tube.



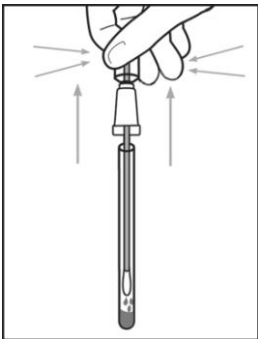
**1 B. Surface:** Swab a 10x10cm area or larger depending on protocol with the **Collection Device Swab (ZSPRO50C)**.



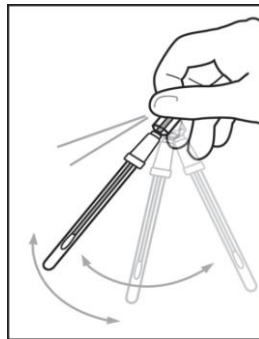
**1 C.** Reinsert Snap-Valve bulb into swab tube.



**1 D. Activate the device.** Bend bulb, snapping the Snap-Valve pin.

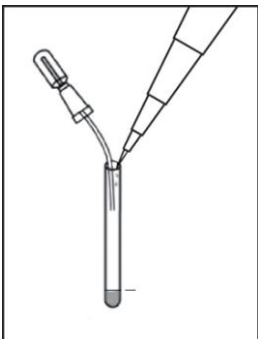


**1 E.** Squeeze the bulb to release the liquid into tube. Most liquid should be in the bottom of tube.

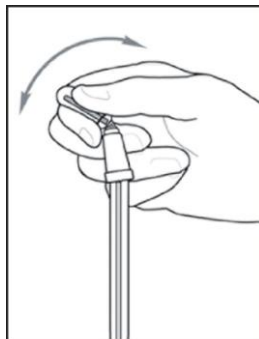


**1 F.** Shake the tube gently to mix sample in the liquid.

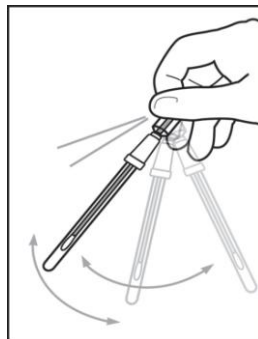
## Step 2: Detection of Subtilisin



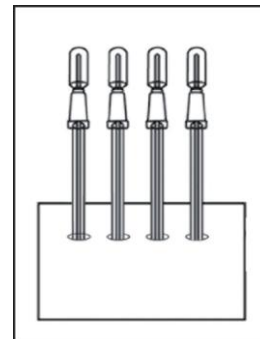
**2A:** Aseptically transfer 0.1mL of sample from **Collection Device (ZSPRO50C)** to **Detection Device (ZSPRO50D)**.



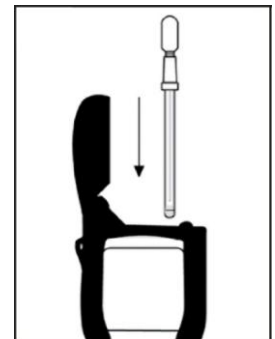
**2B.** Activate **Detection Device (ZSPRO50D)** by breaking the Snap Valve with a snap and squeeze action.



**2C.** Shake the tube gently to mix sample in the liquid.



**2D.** Hold device for 5 minutes at **room temperature (21°- 25°C)**.



**F.** Insert device in a luminometer and initiate the measurement. Record the results as RLUs and refer to table to interpret the results.