

# Grain Pesticide Residue Rapid Detection Kit (100)



Cat. No. FSD-104

Lot. No. (See product label)

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## Product Name

Grain Pesticide Residue Rapid Detection Kit (100)

## Product Overview

Grain Pesticide Residue Rapid Detection Kit (100) is designed for the detection of pesticide residue in food crops.

## Description

Grain Pesticide Residue Rapid Detection Kit (100) is designed for the detection of pesticide residue in food crops. This is a color reaction. Compared with blank control test, it is positive result that the white pill does not change the color or it just turns light blue. It indicates there is a high pesticide residue that the white pill does not change the color. And it indicates there is a relatively low pesticide residue that the white pill turns light blue. While it is negative result that white pill turns blue or has the same color with blank control test card.

## Notes

If the white pill in the blank control test doesn't turn blue, this indicates that the test is abnormal. Maybe it is caused by invalid detecting card or there are something influencing or the quantity of adding sample is not enough. Do the test again after eliminating interference factors.

## Kit Components

- 1, Grain pesticide residue detecting card
- 2, PH7.8 phosphoric acid buffer solutions are attached with the products, and it should be dissolved by 1000 mL pure water per pack.
- 3, Enhancer for pesticide residue detecting card is attached with the products.

## Materials Required but Not Supplied

- 1, Detecting instrument of pesticide residue
- 2, Shattering machine
- 3, Rice huller
- 4, Electronic scale (0.1 g)
- 5, Ultrasonic cleaning apparatus
- 6, Low speed centrifuge
- 7, Adjustable pipettor (10-100 $\mu$ L , 1-5mL)

## Scientific Background

Butyrylcholinesterase is sensitive to organophosphorus pesticide. It can catalyze Indophenol acetate to hydrolyze into indophenols(blue) and acetic acid (colorless), while organophosphorus can inhibit the activity of butyrylcholinesterase and change the processes of catalyzing, hydrolyzing and color variation. So organophosphorus pesticide can be detected according to the inhibition rate of the enzyme activity. Sulfur-containing organophosphorus pesticides are widely used and with high toxicity. Use the enhancer for pesticide residue rapid detecting to pre-treat extracting solution of the detected sample before the oxidation, in order to lower the detection limits and improve the detection sensitivity of this kind of pesticides.

## Detection method

Rapid Detection

## Features & Benefits

Grain Pesticide Residue Rapid Detection Kit (100) is suitable for the rapid detection of pesticide such as organophosphorus and carbamate. In fact, the card is a kind of enzyme paper made by butylcholinesterase and chromogenic reagent, and it is equipped with enhancer for pesticide residue rapid detecting, so the sensitivity to pesticide is improved highly. This detecting card can meet the requirement of the detection of the lower limit grain pesticide. It is used easily and convenient.

## Preparation

Sample treatment

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**FOR RESEARCH OR FURTHER MANUFACTURING USE ONLY**

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1, Shatter the grain sample to 95 % , and then through 20 mesh sieve ( the grains should be shelled. Weight 10 g the treated sample, and pour them into bottle, add 30 ml PH7.8 phosphoric acid suffer solution and mix them evenly .

2, Place it in the ultrasonic apparatus for 5 mins. Suck 2 ml supernate in the test tube after the solution is layered. Then centrifuge it for 1 min at 4000 r/m. Suck 1 ml supernate, and add 50  $\mu$ L enhancer of pesticide residue detecting

## Assay Protocol

1, Switch on pesticide residue detecting apparatus. Operate the apparatus, set pre-reaction time 10 mins after the temperature approaches 40 °C, and set the time 3 mins.

2, Fold grain pesticide rapid detecting card , and then insert it to the card groove (with the white pill upward and red pill adown). Add 80  $\mu$ L PH7.8 phosphoric buffer solution on the white pill of the blank test detecting card. And then add 80  $\mu$ L grain extracting solution on the other white pills respectively. Press "Begin" key for pre-reaction about 10 mins .

3, When hearing the buzz, then fold the cover of the pesticide residue rapid detecting apparatus to superimpose the white pill on the red pill. The time of chromogenic reaction is 3 mins.

4, When hearing the buzz again, open the cover of pesticide residue rapid detecting apparatus and observe the color variation of the white pill compared with the one of blank test detecting card.

5, If there is not any pesticide rapid detecting apparatus, use hand instead of the apparatus. After the pre-reaction, fold and pinch the detecting card for 3 mins. Then unfold it to observe the variation. This way will be influenced by the temperature of environment and human being.

## Sample Type

Food Crops

## Storage

It is better to place this product in the refrigerator at 4-10 °C, and the expiration time is one year.

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