Patulin Quantitative Rapid Test Kit for Vegetables and Fruits (0-200 ppb)

Order Code: YR1F005D

Introduction

This quantitative rapid test is used for the determination of Patulin in vegetables, fruits, and their products based on the colloidal gold immunochromatography technology. The whole process includes two parts: sample preparation and detection. It takes about 20 min for sample preparation and 9 min for detection.

Application

Applicable for the rapid test of Patulin in vegetables, fruits, and their products samples on-site or in laboratory.

Performance Information

Linear range	0-200 μg/kg(ppb)
Limit of determination	10 μg/kg(ppb)
Limit of quantification	20 μg/kg (ppb)
Intra-batch variation	CV≤15%
Inter-batch variation	CV≤15%

Storage and Shelf Life

Storage: Store at 2-8 °C. Do not freeze. Keep away from direct sunlight, moisture and heat.
Shelf Life: 18 months.

Test Kit Components (48 Tests/Kit)

1. 6 test tubes, each containing 8 red reagent microwells and 8 test strips
2. 2 bottles of Patulin Diluent, 28 mL/bottle
3. 1 bottle of derivatizing reagent, 1.2mL
4. 1 quantitative curve ID chip
5. 1 instruction manual

Materials required but not provided (available from BIOEASY)

1. Special Matched Reader: **YR-SG21 ReadEasy**
2. Incubator capable of maintaining a temperature at 40 ± 2 °C
3. Single channel pipette (10-100μL, 20-200μL, 100-1000μL), centrifuge (suitable for 50 mL centrifuge tube), centrifuge tube (1.5 mL, 50 mL), scale, timer, vortex mixer, and constant temperature water bath
4. Consumables and Reagents(self-provided): distilled water, Anhydrous ethanol, 50mL centrifuge tubes, 1.5mL centrifuge tubes

Preparation before Testing

1. Take out the Patulin quantitation dilution solution, derivatizing reagent, and the required number of test strips, and let them equilibrate to room temperature for later use.
2. Turn on the constant temperature incubator and set the temperature to 40°C.
3. Turn on the constant temperature water bath and set the temperature to 40°C.

Sample Preparation

Fresh vegetable and fruit samples

1. Weigh 50g±0.1g sample into a homogenizer cup, add 50mL of distilled water, and thoroughly blend and crush it.
2. Weigh 10g of the homogenized suspension into a 50mL centrifuge tube, then add 10mL of anhydrous ethanol, and vortex mix for 3-5 minutes.
3. After thorough mixing, centrifuge at 4000r/min for 5 minutes or filter through filter paper.

Vegetable and fruit juice samples

1. Weigh 5g±0.1g of the sample into a 50mL centrifuge tube, add 5mL of distilled water, and then add 10mL of anhydrous ethanol. Vortex mix for 3-5 minutes.
2. After thorough mixing, centrifuge at 4000r/min for 5 minutes or filter through filter

Dried vegetable and fruit samples

1. Weigh 50g±0.1g of the sample into a homogenizer cup, add 100mL of distilled water, and thoroughly blend and crush it.
2. Weigh 10g of the homogenized suspension into a 50mL centrifuge tube, then add 10mL of

anhydrous ethanol, and vortex mix for 3-5 minutes.

3. After thorough mixing, centrifuge at 4000r/min for 5 minutes or filter through filter paper.

Test Procedure

(Before testing, check whether the instrument has imported the curve corresponding to the lot number of the product. If not imported, insert the ID chip of a corresponding lot of the product, then the instrument will display the item information after 2-3 seconds. Press "OK" to complete the update of the calibration curve of the new lot. If imported, proceed to the following steps directly. The ID chip from one lot only needs to be read once.)

1. Pipette 780μL of Patulin Dilution into a 1.5mL centrifuge tube, add 200μL of the clarified supernatant after centrifugation, and then add 20μL of derivatizing reagent. Mix well and incubate in a 40°C water bath for 10 minutes. This is the Detection Solution.
2. Pipette 200μL Detection Solution into the red reagent microwell and mix well by pipetting up and down 5-6 times. Cover the incubator with the lid and incubate for 3 min at 40±2°C.
3. Insert the test strip into the microwell after the first incubation, and cover the incubator with the lid and incubate for 6 min at 40±2°C.
4. Take out the test strip from the microwell and remove the sample pad at the lower end and then read the result within 1 min.

【Note: After removing the sample pad at the lower end, the reading should be carried out immediately (the reading of the results should be completed in 1 min). Results obtained beyond the time limit are for reference only.】

Brief Operating Procedures of YR-SG21 ReadEasy

1. Connection (Optional): Connect the power cord.
2. Turn on: Turn on the power switch on the left side of the instrument.
3. Select "Test" and enter the sample detection interface.
4. Select "Quantitative Test Strip" and enter the quantitative detection interface.
5. Select "PAT" and enter the detection interface of PAT.
6. Insert the test strip into the test cassette, and push the cassette to the end of the slot.
7. Click on "Test", and the slot will automatically enter and scan the test strip. Then the results will display on the screen.

Precautions

1. Operate in an environment of 20-30 °C.
2. Do not mix reagent microwells, test strips, diluent and ID chip from different lots. Use the kit before it is expired.
3. Store the kit at 2-8°C in a dry place without direct light. Return the kit to room temperature before use, but avoid prolonged exposure to humid environments and light.
4. The tube with microwells and test strips should always be well closed after reagents have been taken out. Empty one tube before opening another and try to finish one tube within a week.
5. Both the test strips and the reagent microwells are disposable. Hold the test strips from the upper side (Absorbing pad side). Do not touch the lower end (Sample pad and Nitrocellulose membrane areas).
6. The quantitative linear range of this product is 0 - 200 μg/kg. In cases where the results exceed 200 μg/kg, the clarified supernatant obtained after centrifugation can be appropriately diluted with a 50% ethanol-water solution in a proportional manner. The final result should then be multiplied by the dilution factor.
7. After the second incubation, read the result directly within 1 min. The results are invalid after more than 1 min.
8. When the reader signals that the recording memory is nearly insufficient, export the test data to avoid the lack of memory of the reader and inability to store additional data.
9. This product is only used for preliminary screening, and the test results are only for the currently extracted samples. The final result shall be subject to the official arbitration detection methods.
10. Questions regarding the pre-processing methods or test results for certain specific samples, please contact the distributor or manufacturer for consultation.