

Sensitive Pesticide Detection Kit

Analysis of Pesticide Residued in Food (10 tests/kit)

Pesticides are toxic substances to be used in agricultural products residues need to be lower than the safety limit. There are still many kinds of food in the market that still has residues that excess the safety limit. Several methods can be applied to detect pesticides residue in food samples, such as GC, HPLC, and GCMS. Those methods require a long analysis time as well as complicated procedures and instruments. This Sensitive Pesticides Detection kit provides a fast, easy, simple, and reliable test solutions to detect pesticide residues in food samples.

Pesticide testing targeted groups:

- Organophosphate group
- Carbamate group
- Cholinesterase Inhibitors

Target samples:

Vegetables, fruits, cereal grains, medicinal plants, dry salted fish, soil, mud, and water from/near contaminate area, and drinking water.

Details:

This kit is composed of 2 parts:

1. Test Kit (reagents only) : 10 tests/kit
2. Modified equipment (you do not need this if you have access to laboratory equipment)
 - a. 1 unit of modified warm water bath
 - b. 1 unit of Thermometer
 - c. 18 test tubes
 - d. 5 Pasture pipettes
 - e. 1 unit of rack
 - f. 5 sample bottles
 - g. 12 plastic pipettes
 - h. Aquatic air pump
 - i. 1 unit of evaporated kit

Extraction Procedure:

1. Chop or blend sample
2. Weight 5 g of the homogenous sample in to the sample bottle
3. Add 5mL of Solvent-1 into the sample bottle, closed tightly and shake vigorously for approximately 1 minute. Let is stand for 10-15 minutes.
4. Pipette out 1mL of the extract and transfer to a new test tube, then add 1mL of Solvent-2.
5. Now, prepare the modified warm water bath (32-36°C) by connecting the evaporated kit with the air pump and the pasture pipette and then insert the end of the pasture pipette in to the sample test tube. Adjust the air releasing from the air pump in to the extract, and then incubate until the Solvent-1 (lower layer) is evaporated. Now the solution is called "Sample Extract"



Testing Procedure:

Prepare and label at least 3 test tubes for:

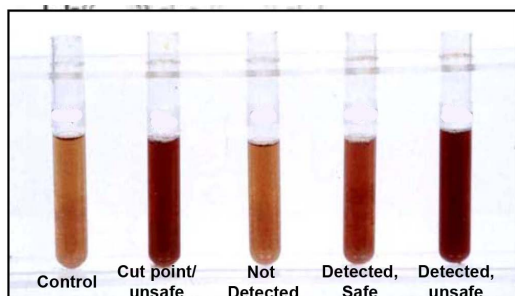
- Tube 1: Cut point or unsafe
- Tube 2: Control or not detected
- Tube 3: Sample extract (sample name)

3 test tubes for 1 sample. Please add more test tubes if you are testing more samples. Run each samples with two control tubes (Tube 1 and 2).

1. Add 0.25mL of Solvent-2 into Tube 1 and 2.

2. Add 0.25mL of each Sample Extract from the extraction procedure to Tube 3 or your sample tubes.
3. Put all the tubes into the modified warm water bath at temperature (32-36°C).
4. Pipet each 0.5mL of Main-1 solution into every tubes and incubate for 5-10 minutes.
5. During incubation, mix Main-2 solutions: Main-2 + Main-2.1 and Main-3 solutions: Main-3 + Main-3.1.
6. Add 0.375mL of the mixed Main-2 solutions from step 5 into Tube 1 (cut point of unsafe control tube). Add 0.25mL of the mixed Main-2 solution in step 5 into Tube 2 (safe control tube) and Tube 3 (sample tube). Incubate for 30 minutes.
7. Add 1mL of mixed Main-3 solutions from step 5 into every tube and swirl.
8. Add 0.5mL of Main-4 solution into every tube and swirl.
9. Add 0.5mL of Main-5 solution into every tube and swirl.
10. Evaluate the results

Result Evaluation.



Color in the tube	Result Interpretation
Sample tube ≤ tube 2	Not detected
Sample tube > tube 2 but < tube 1	There are some toxic residues expected. Safe* for consumption
Sample tube > tube 2 and ≥ tube 1	There are some toxic residues expected. Unsafe** for consumption

Note:

* safe for consumption = there are some toxic residues inhibited the cholinesterase enzyme at less than 50%, these toxic residue amounts can be washed out by the customer.

** unsafe for consumption = there are some toxic residues inhibited the cholinesterase enzyme at 50% or more. This amount of toxic residue cannot be washed out by the consumer, they are only decreased by washing.

CAUTION

- The reason in using the Solvent-1 are to dissolve the toxic residues from the sample and to destroy the interfering enzyme deposited in the sample. Therefore Solvent-1 is toxic for human health, avoid breathing and leave it in open, as it will evaporate.
- Wash out with clean water and soap when chemical reagents in contact with skin.
- Wear gloves
- Keep away from children
- Do not use reagents from different lot
- Handle with care as all the reagents are chemical
- This not food. DO NOT eat or drink.

Storage

- Keep all reagents in a refrigerator/cool place EXCEPT for Main-1 & Main-2 should be in the freezer
- 1 year shelf life if stored properly
- Once Main-2, Main-2.1, Main-3, & Main-3.1 are mixed, store in the refrigerator.
- Main-2 mixture can be used within 10 days after mixing.
- Main-3 mixture can be used within 3-4 days after mixing.