



## User's Manual

# Fenpropathrin ELISA Kit



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This product is for research use only and is not intended for diagnostic use.

For illustrative purposes only. To perform the assay the instructions for use provided with the kit have to be used.

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## PRODUCT INFORMATION

### Intended Use

The Fenpropathrin ELISA is an immunoassay for the detection of fenpropathrin in contaminated samples.

### General Description

Fenpropathrin is a synthetic pyrethroid and possess high insecticidal activity. It is used to control many species of mites and insects like whiteflies, cotton field crops, glass house crops, vegetables. Appreciable levels of pyrethroid residues can occur in food commodities from crops, food of animal origin (eg. milk, eggs and meat), soils, sediments, and surface, ground and drinking water.

### Principles of Testing

The test is a direct competitive ELISA based on the recognition of fenpropathrin by specific antibodies. Fenpropathrin, when present in a sample, and a fenpropathrin-enzyme conjugate compete for the binding sites of anti-fenpropathrin antibodies in solution. The fenpropathrin antibodies are then bound by a second antibody immobilized on the plate. After a washing step and addition of the substrate solution, a color signal is produced. The intensity of the blue color is inversely proportional to the concentration of fenpropathrin present in the sample. The color reaction is stopped after a specified time and the color is evaluated using a microplate ELISA photometer. The concentrations of the samples are determined by interpolation using the standard curve constructed with each run.

### Reagents And Materials Provided

1. Microtiter plate coated with a second antibody.
2. Fenpropathrin Standards.
3. Fenpropathrin-HRP Conjugate.
4. Conjugate Diluent.
5. Anti-Fenpropathrin Antibody Solution.
6. Sample Diluent.
7. Wash Solution.
8. Color (Substrate) Solution (TMB).
9. Stop Solution.

### Materials Required But Not Supplied

1. Micro-pipettes with disposable plastic tips (20-200  $\mu$ L)
2. Multi-channel pipette or stepper pipette (50-250  $\mu$ L) with disposable plastic tips
3. Deionized or distilled water
4. Graduated cylinder

5. Container with 500 mL capacity (for 1X diluted Wash Solution)
6. Tape or Parafilm
7. Timer
8. Paper towels or equivalent absorbent material
9. Microtiter plate shaker (optional)
10. Microtiter plate washer (optional)
11. Microtiter plate reader (wave length 450 nm)

## Storage

The Fenpropathrin ELISA Kit should be stored in the refrigerator (4-8°C). The solutions must be allowed to reach room temperature (20-25°C) before use. Reagents may be used until the expiration date on the box.

## Assay Procedure

1. Add 50 µL of the standard solutions and samples into the wells of the test strips according to the working scheme given. Analysis in duplicate or triplicate is recommended.
2. Add 50 µL of reconstituted enzyme conjugate solution to the individual wells successively using a multi-channel pipette or a stepping pipette.
3. Add 50 µL of antibody solution to the individual wells successively using a multi-channel pipette or a stepping pipette. Cover the wells with parafilm or tape and mix the contents by moving the strip holder in a circular motion on the benchtop for 30 seconds. Be careful not to spill the contents.
4. Incubate the strips for 60 minutes at room temperature.
5. After incubation, remove the covering and vigorously shake the contents of the wells into a sink. Wash the strips five times using the 1× washing buffer solution. Use at least a volume of 250 µL of washing buffer for each well and each washing step. Remaining buffer in the wells should be removed by patting the plate dry on a stack of paper towels.
6. Add 100 µL of substrate (color) solution to the wells using a multi-channel pipette or a stepping pipette. Cover the wells with parafilm or tape and mix the contents by moving the strip holder in a circular motion on the benchtop for 30 seconds. Incubate the strips for 30 minutes at room temperature. Protect the strips from direct sunlight.
7. Add 50 µL of stop solution to the wells using a multi-channel pipette or a stepping pipette in the same sequence as for the substrate solution.
8. Read the absorbance at 450 nm using a microplate ELISA photometer within 15 minutes after the addition of the stopping solution.