

ORGANOCHLORINE SCREEN (ELISA Kit)

● Intended use

The Envirologix Organochlorine Screening Test Is A Qualitative ("Yes/No") Test For The Detection Of Unacceptable Organochlorine Residues In Dried Vine And Tree Fruit. The Tests Individually Detect Organochlorine Insecticides From Each Of The Two Main Families: The Dieldrin (Cyclodiene) Family, And A Family Comprising DDT (And Its Metabolites, DDA And DDE), And Dicofol (Kelthane). However, They Do Not Discriminate Between Members Of The Same Family. The Test Is Designed To Have Similar Sensitivity To Gas Chromatography (Instrumental) Analysis, And To Detect Levels Corresponding To The Export Trade "Action Levels" Of Each Compound.

● General

The EnviroLogix Organochlorine Screening Test is based on the use of antibodies to each of the organochlorine families. These antibodies are immobilized on wells in different vertical colour-coded strips assembled in alternating columns in a 96-well ELISA plate frame. The antibodies bind both compounds from the corresponding organochlorine group as well as an organochlorine-enzyme conjugate. If present, the organochlorine residues in the extract of the fruit sample compete with an organochlorine-enzyme conjugate for a limited number of binding sites on the antibodies.

1. A sample that may contain organochlorine is added to a microwell, followed by organochlorine-enzyme conjugate. The immobilized organochlorine antibodies on the well walls compete with the organochlorineenzyme conjugate for the same antibody binding sites.
2. After this mixture is left to sit for 60 minutes, any unbound molecules are washed away.
3. A substrate/chromogen solution is then added to the microwells. In the presence of bound organochlorine-enzyme conjugate, the substrate is converted to a compound, which causes the chromogen to turn blue. One enzyme molecule can convert more than one substrate molecule.

The substrate molecules then convert chromogen molecules to blue.

Since there are the same number of immobilized antibodies available on every microwell, and each microwell receives the same number of organochlorine-enzyme conjugate molecules, a sample which contains a low concentration of organochlorine enables the immobilized antibody to bind many organochlorine-enzyme conjugate molecules. Therefore, a low concentration of organochlorine of a particular group will produce a dark blue sample. Conversely, a high concentration of organochlorine of a particular group will enable fewer organochlorine-enzyme conjugate molecules to be bound by the antibodies, resulting in a lighter blue sample.

Materials Provided:	Materials Required But Not Provided:
<ul style="list-style-type: none"> - 1 x Sachet Of Wash Buffer Salts. - 1 x Bottle of Stop Solution. - 1 x Coated Plate in foil bag, containing 6 DDT-coated test strips and 6 Cyclodiene-coated test strips, arranged in alternating columns in plate frame. - 1 x Bottle of Diluent Buffer. - 1 x Glass Vial Of Pesticide Standards for spiking fruit extract. - 1 x Bottle, Organochlorine - Enzyme conjugate concentrate. - 1 x Bottle of Substrate. 	<ul style="list-style-type: none"> - Microplate Reader And Washer (optional). - Shaker for extracting pesticide residues from fruit; balance for weighing fruit. - Microwell Plate Mixer. - Positive-Displacement Pipette (20 µL) {Microman M-25 (Gilson Medical Electronics, France) or the equivalent}. - Automatic Pipettes (1-20, 20-200, 200-1000, 1000-5000 µL); 12-channel pipette (20-200 µL). - Timer or wristwatch; Marker Pens. - Distilled Water for preparing buffers. - Glass Bottles/ conical flasks for extracting fruit. - Methanol for extraction of the pesticide from the fruit. - 100 mL and 1 L Measuring Cylinders; Two 1 L bottles for wash and diluent solutions. - Confirmed Pesticide-Free Fruit of each variety being analyzed (20-40 grams per test).

Kit Specifications:

Plate Format: Time Requirement: Detection Limit: Cross Reaction: (Limit of Detection) Measurement: Product ID #:	<ul style="list-style-type: none"> - 96 Well. - 2 h 10 min. - 0.05 ppm (DDT). - 0.02 ppm (Dieldrin). - DDT/Dicofol group (blue colour strips). - Dicofol 1 (0.5 ppm). - DDT (0.05 ppm). - Chlorbenzilate (0.01 ppm). - DDE (0.05 ppm). - DDA (0.01 ppm). - Cyclodiene group (red colour strips). - Dieldrin (0.02 ppm). - Endosulfan 1 (0.02 ppm). - Aldrin (0.1 ppm). - Chlordane (0.1 ppm). - Heptachlor (0.02 ppm). - Endrin (0.01 ppm). - Microtiter Plate Reader or strip reader. - EP021.
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