Crustacean

Product Code: ESCRURD-48

For the detection of Crustacean Tropomyosin Residues in Food Products and Environmental samples.

Intended Use
The ELISA SYSTEMS Crustacean Tropomyosin Residue assay is an enzyme-linked immunosorbent assay (ELISA) that may be used to screen food products for the presence of Crustacean material.

Background
Tropomyosin is a major muscle protein in Crustaceans. It has been identified as the major Shrimp allergen. Molecular cloning experiments on lobsters and crabs have characterized this protein as the common allergen in Crustaceans.1,2

Because of its allergenic and heat-stable properties, Tropomyosin was chosen as the protein indicator for the ELISA SYSTEMS Crustacean Residue ELISA.

* This assay has been shown to detect Tropomyosin residues from the following species: *Penaeus esculentus*, *Penaeus semisulcatus*, *Penaeus laticaudatus*, *Penaeus monodon*, *Penaeus plebejus*, *Penaeus stylirostrus*, *Metapenaeus endeavouri*, *Metapenaeus bennettae*, *Metapeneaeopsis palmensis*, *Cherax quandricarinatus*, *Cherax destructor*, *Sylla serrata*, *Ovalipes australiensis*, *Charybdis natator*, *Charybdis feriata*, *Portunus sanguinolentus*, *Thenus orientalis*, *Panulirus cygnus*. Other Crustacean species not listed here might also be detected with this assay, depending on the level of the Tropomyosin present, the type of the sample and the processing treatments involved.

Controls Supplied
0, 0.05, 0.10, 0.25 and 0.50 ppm (mg/kg) Crustacean Tropomyosin.


How the ELISA SYSTEMS Crustacean Residue test works:

Step 1
Sample is added

Step 2
Antigen-Antibody Complex

Step 3
Coloured End-Point

The test sample is added and if Crustacean residue is present, it will bind to the specific antibodies.

Enzyme-labelled Conjugate is added and binds to the captured Crustacean residue to form a "Sandwich".

TMB Substrate is added, which is converted in the presence of the Enzyme Conjugate to form a blue colour if Crustacean residue is present in the sample. A yellow colour is formed once Acid is added to stop the reaction.

Total test time is approximately 60 minutes on extracted samples. (One incubation time each of 30, 15, 10 minutes each.)
Food Allergen Residue ELISA Protocol

Add 100 microlitres of Standards and Samples to their allocated Antibody-coated wells. Mix all wells for 10 seconds by gentle shaking on a flat surface. **Incubate for 30 minutes.**

Add 100 microlitres of the Green Conjugate Solution to each well. Mix all wells for 10 seconds by gentle shaking on a flat surface. **Incubate for 15 minutes.**

Add 100 microlitres of the Substrate Solution to each well. Mix all wells for 10 seconds by gentle shaking on a flat surface. **Incubate for 10 minutes.**

Add 100 microlitres of the Stop Solution to each well. Mix all wells for 10 seconds by gentle shaking on a flat surface.

Read results visually, comparing with the colour of the Standards. The results can be read on a microplate/strip reader. Results must be read within 30 minutes.

**Interpretation of Results**
Interpretation is based on the suggested extraction/dilution protocol. Results are for screening purposes. All results should be interpreted as part of a HACCP plan for Food Allergens. Any sample returning a positive result should be regarded as a presumptive result and confirmation or further testing should be performed.

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**No. of Wells**
48

**Max No. of Tests**
46 as a screening test
30+ as Quantitative test

(Depending on the number of samples and controls per run)

(a multichannel pipette must be used to achieve maximum sample numbers)

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Manufactured by ELISA SYSTEMS Pty Ltd.

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