



Buckwheat

Product Code: ESBWPRD-48

For the detection of Buckwheat Protein Residues in Food Products and Environmental samples.

Intended Use

The **ELISA SYSTEMS Buckwheat Protein Residue** assay is an enzyme-linked immunosorbent assay (ELISA) that may be used to screen food products for the presence of buckwheat protein material.

Commodities that have shown suitability for use with this kit include:

Plain Wheat Flour, Soy Flour, Corn (Maize) Flour, Cookie Mix, Fried Noodles, Pasta, Egg Pasta, Semolina, Polenta, Sushi Rice, Brown Medium Grain Rice, Long Grain White Rice.

Background:

Buckwheat (*Fagopyrum esculentum*) has been recognized as a common food allergen in Korea, Japan and several other countries. There is a growing interest in buckwheat products as a health food and as a substitute for wheat flour in gluten-allergenic persons in Western countries.

This assay is a rapid and reliable test which significantly reduces the time required to screen appropriate food products for the presence of buckwheat residues.

Interpretation of Results:

This assay is based on comparison to Buckwheat Flour Protein concentrations.

Please note: A special extraction solution is required for samples containing Polyphenols, including Dark Chocolate, Wine, Fruit Juices, Herbs and Tannins. (Product code: ESADDSOL)

Controls Supplied

0, 2.5, 5.0, 10.0 and 25.0 ppm (mg/kg) Buckwheat Flour Protein.

Why test for Food Allergens?

- ✓ **Brand Name Protection**
- ✓ **Prevent Costly Product Recalls**
- ✓ **Ensure Consumer Confidence**
- ✓ **Duty of Care**
- ✓ **Comply with Product Labelling Requirements.**

Allergens may occur unintentionally in foods for several reasons including:

- Cross-contamination of ingredients**
- Food preparation errors**
- Improper cleaning of equipment**

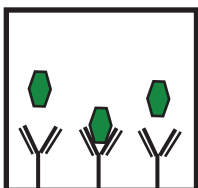
Kits available:

Almond, Buckwheat, Beta-Lactoglobulin, Casein, Crustacean, Egg, Gliadin, Hazelnut, Lupin, Mustard, Peanut, Sesame, Soy

How the **ELISA SYSTEMS** Buckwheat protein Residue test works:

Step 1

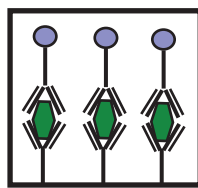
Sample is added



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

Step 2

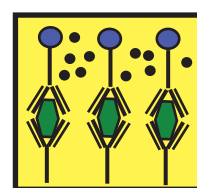
Antigen-Antibody Complex



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

Step 3

Coloured End-Point

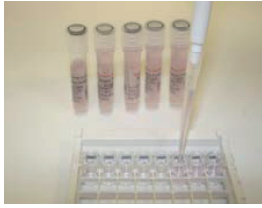


TMB Substrate is added, which is converted in the presence of the Enzyme Conjugate to form a blue colour if Buckwheat residue is present in the sample.

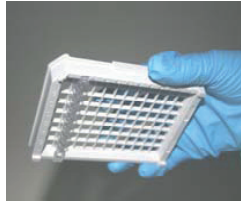
A yellow colour is formed once Acid is added to stop the reaction.

Total test time is approximately 45 minutes on extracted samples. (Two incubation times of 15 minutes each and one of 10 minutes)

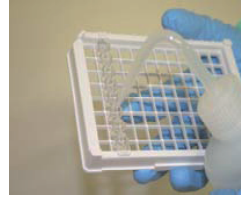
Food Allergen Residue ELISA Protocol



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 15 minutes.



Dump liquid from wells.



Wash wells thoroughly five times with wash buffer.



Tap wells firmly onto absorbent paper towel.



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.



Dump liquid from wells.



Wash wells thoroughly five times with wash buffer.



Tap wells firmly onto absorbent paper towel.



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.

DO NOT WASH



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.



| Product Code | No. of Wells | Max No. of Tests | (Depending on the number of samples and controls per run) |
|-------------------|--------------|------------------|---|
| ESBWPRD-48 | 48 | 46 | as a screening test (a multichannel pipette must be used to achieve maximum sample numbers) |
| | | 30+ | as Quantitative test |

Manufactured by ELISA SYSTEMS Pty Ltd.

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