



Gliadin

Product Code: ESGLI-48

For screening for the presence of low levels of Cereal Gluten Residue in Food Products and Environmental Samples

Intended Use

The **ELISA SYSTEMS Gliadin** assay is an enzyme-linked immunosorbent assay (ELISA) that may be used to screen food products for the presence of Gliadin (hence Gluten). It is designed for the measurement of cereal gliadin at low levels, within a range of 2.5 - 25 PPM, in raw materials, environmental swabs and finished food products. It detects the omega gliadin fraction of wheat as an indicator of total gluten.

Background

Gluten is the dough-forming protein fraction of wheat flour and is present in most bakery products. However, this protein fraction is responsible for wheat intolerance associated with coeliac disease and allergies such as exercise-induced anaphylaxis and Baker's asthma. It is the gliadin component of gluten that appears to be the catalyst for these health problems. In coeliac disease, gliadin damages the lining of the intestine and flattens the villi that normally intrude from the intestinal surface to absorb food.

As there is currently no cure for gluten intolerance, individuals with this condition must adopt a lifelong gluten-free diet. However, it is possible that foods labelled "Gluten-Free" may be contaminated during processing by equipment previously used for gluten-containing foods. Consequently, sensitive and reliable tests are required for the detection of gluten (gliadins or related prolamins) in foods. Consult with your local food authorities for your definition of "Gluten-Free".

Please Note: A microplate/strip reader is required for Quantitative analysis. This assay should be performed at 22 - 23°C, preferably in a laboratory incubator to maintain constant conditions.

Controls Supplied

0, 2.5, 5.0, 10.0, 20.0 and 25 ppm (mg/kg) Gliadin.

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:

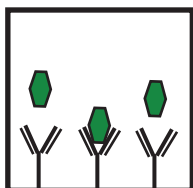
- Cross-contamination of ingredients**
- Food preparation errors**
- Improper cleaning of equipment**

Kits available:

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

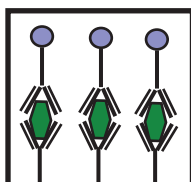
How the **ELISA SYSTEMS** Gliadin Residue test works:

Step 1
Sample is added



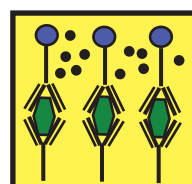
The test sample is added and if Gliadin residue* is present, it will bind to the specific antibodies.

Step 2
Antigen-Antibody Complex



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

Step 3
Coloured End-Point

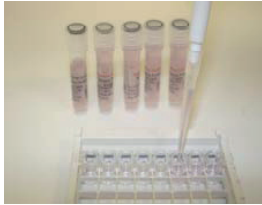


TMB Substrate is added, which is converted in the presence of the Enzyme Conjugate to form a blue colour if Gliadin residue is present in the sample. A yellow colour is formed once Acid is added to stop the reaction.

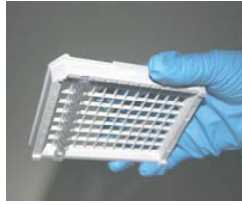
*Soluble Omega Gliadin

Total test time is approximately 80 minutes on extracted samples. (Two incubation times of 30 minutes each and one of 15 minutes.)

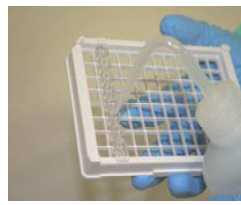
Gluten Residue ELISA Protocol



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 at 22 - 23°C.**



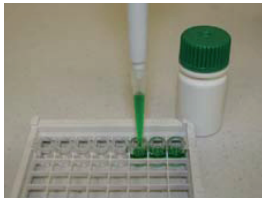
Dump liquid from wells.



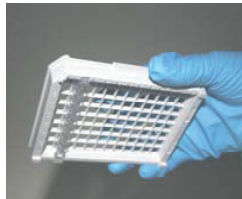
Wash wells thoroughly **Five** times with Wash Buffer.



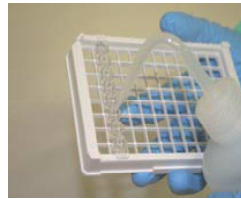
Tap wells firmly onto absorbent paper towel.



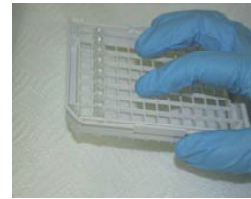
Add 100 microlitres of the Green Conjugate Solution to each well. Mix all wells for 10 seconds by gentle shaking on a flat surface. **Incubate for 30 minutes at 22 - 23°C.**



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 15 minutes at 22 - 23°C in the dark.**

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.



Results must be read within 30 minutes.

For Quantitative analysis, the results **MUST** be read on microplate/strip reader. This may also apply when determining Gluten-Free status, depending on the level being set as a cut-off value.

For Qualitative testing, read results visually, comparing with the colour of the Standards.

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)
ESGLI-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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