



# Beta-Lactoglobulin

**Product Code: ESMRDBLG-48**

**For the detection of Beta Lactoglobulin Residues in Food Products and Environmental samples.**

## Intended Use

The **ELISA SYSTEMS Beta-Lactoglobulin Residue** assay is an enzyme-linked immunosorbent assay (ELISA) that may be used to screen food products for the presence of BLG as an indicator of the presence of milk or milk products.

This kit can be used to detect whole milk or whey. Products where whey has been significantly removed, such as cheese, may not be suitable for this kit as the estimated level of milk material will be lower. In these cases, our Casein kit may be more suitable. Please discuss this with your ELISA SYSTEMS representative.

## Background

Beta-Lactoglobulin is the major whey protein in ruminants and pigs. It is not found in the milk of many species, and milk from humans appears to be devoid of Beta-Lactoglobulin.

Human infants can develop an allergenic response to cow milk proteins. Beta-Lactoglobulin is the primary antigenic component that stimulates the immune hypersensitivity response in the infant.<sup>1</sup>

The ELISA SYSTEMS Beta-Lactoglobulin ELISA is a rapid and reliable test which significantly reduces the time required to screen food products for the presence of Beta-Lactoglobulin. A conversion table is supplied for expression of results in terms of other milk products.

**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, 0.10, 0.25, 0.50 and 1.0 ppm (mg/kg) Beta-Lactoglobulin.

1. Hurley, W.L. "Milk Proteins and Protein Synthesis" in "Lactation Biology" University of Illinois, Urbana-Champaign <http://classes.aces.uiuc.edu/AnSci308/proteinsyn.html>

## 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:

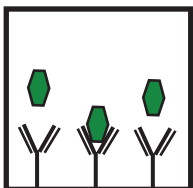
**Cross-contamination of ingredients**  
**Food preparation errors**  
**Improper cleaning of equipment**

## Kits available:

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

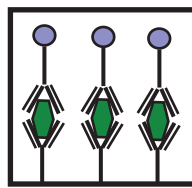
## How the ELISA SYSTEMS Beta-Lactoglobulin (BLG) Residue test works:

**Step 1**  
Sample is added



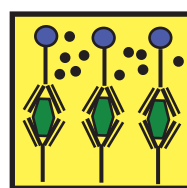
The test sample is added and if BLG residue is present, it will bind to the specific antibodies.

**Step 2**  
Antigen-Antibody Complex



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

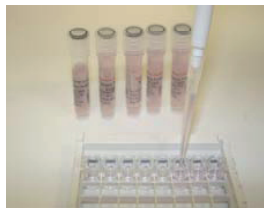
**Step 3**  
Coloured End-Point



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

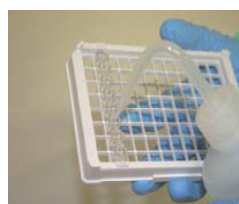


Add 100 microlitres of the Green Conjugate Solution to each well.  
Mix all wells for 10 seconds by gentle shaking on a flat surface.

**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)
<b>ESMRDBLG-48</b>	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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