



Food Allergen **ELISA Kit II**

Cat.#	Products
M2111	Egg (Ovalbumin) ELISA Kit II
M2112	Beta-lactoglobulin ELISA Kit II
M2113	Casein ELISA Kit II
M2114	Wheat/Gluten (Gliadin) ELISA Kit II
M2115	Buckwheat ELISA Kit II
M2116	Peanut ELISA Kit II
M2117	Soya ELISA Kit II

High sensitivity, Fast and Easy

***Especially, superior to
test for processed food.***

About Morinaga Institute of Biological Science, Inc. (MloBS)

Morinaga Institute of Biological Science, Inc. (MloBS) is a member of Morinaga & Co., Ltd. (Morinaga group), which is a leading confectionary company in Japan,

We are focusing on developing the reagents for food safety and laboratory animals, utilizing immunoassay techniques as ELISA, Western blotting and Lateral Flow device.

We are also responsible for analysis for food safety, quality control and hygiene assurance in Morinaga group.





Intended Use

We offer innovative food allergen ELISA kits which can effectively solubilize and extract proteins from processed and unprocessed food. These kits use an innovative new extraction solution to achieve a high recovery rate of the target protein in both processed and unprocessed food.

Performance

Performance	
Assay range	0.31 - 20 ppm ($\mu\text{g protein / g food}$)
Limit of detection	0.31 ppm ($\mu\text{g protein / g food}$)
Limit of quantity	0.31 ppm ($\mu\text{g protein / g food}$)
Reproducibility	Intra-, Inter, Lot to Lot reproducibility : C.V.<10%
Sample extraction	Heating 10 min or shaking over night (at least 12 hours)
Assay time	110 min (excluding sample preparation/extraction)
Sample number	40 samples (Duplicate)

Egg : ppm ($\mu\text{g egg protein / g food}$), Casein & Beta-lactoglobulin : ppm ($\mu\text{g milk protein / g food}$)
 Wheat : ppm ($\mu\text{g wheat protein / g food}$), Peanut : ppm ($\mu\text{g peanut protein / g food}$)
 Buckwheat : ppm ($\mu\text{g buckwheat protein / g food}$), Soya : ppm ($\mu\text{g soya protein / g food}$)

High light

Innovative extraction method and unique antibodies

Using a novel extraction solution, the allergen is significantly solubilized even after the exposure to extreme processing condition, and our unique antibodies can detect the target. Accordingly, the kits can apply for the examination of highly processed foods, as well as swab samples collected in food processing.

Validation data of Allergen ELISA Kits

Sensitivity

	Egg	Casein	Gluten	Peanut	BLG	Buckwheat	Soya
Limit of detection	0.31 ppm	0.31 ppm	0.31 ppm	0.31 ppm	0.31 ppm	0.31 ppm	0.31 ppm
Limit of quantity	0.31 ppm	0.31 ppm	0.31 ppm	0.31 ppm	0.31 ppm	0.31 ppm	0.31 ppm

Egg : ppm (μg egg protein /g food), Casein & Beta-lactoglobulin : ppm (μg milk protein /g food)

Gluten : ppm (μg wheat protein /g food), Peanut : ppm (μg peanut protein /g food)

Buckwheat : ppm (μg buckwheat protein /g food), Soya : ppm (μg soya protein/g food)

Representative test results of commercial foods

Food	Egg (ppm)
Cookie	989
Bread	1,364
Custard pudding	20,283
Fried chicken	2,469
Mayonnaise	2,645

Food	Casein (ppm)
Cookie	1,448
Bread	276
Custard pudding	12,605
Ham	2,183
Wafer	8,149

Food	Gluten (ppm)
Gratin	7,333
Curry	6,069
Baby food	619
Stew roux	3,481
Fried chicken	3,641

Food	Peanut (ppm)
Cookie	10,106
Peanut butter	38,484
Peanut soup	4,548
Peanut cream	9,825

Food	Buckwheat (ppm)
Buckwheat noodles	29,000
Buckwheat tea	417

Food	Soya (ppm)
Soy milk	37,732
Tofu	28,025
Soy oil	N.D.

N.D.: Not Detected

Egg : ppm (μg egg protein /g food), Casein & Beta-lactoglobulin : ppm (μg milk protein /g food)

Gluten : ppm (μg wheat protein /g food), Peanut : ppm (μg peanut protein /g food)

Buckwheat : ppm (μg buckwheat protein /g food), Soya : ppm (μg soya protein/g food)

Cross reactivity of Allergen ELISA kits

Unit : ppm (μg protein /g food)

Food	Egg ELISA Kit II	Casein ELISA Kit II	Wheat/Gluten ELISA Kit II
Egg	>20	<0.31	<0.31
Milk	<0.31	>20	<0.31
Skim milk	<0.31	>20	<0.31
Wheat	<0.31	<0.31	>20
Barley	<0.31	<0.31	>20
Rye	<0.31	<0.31	>20
Oats	<0.31	<0.31	>20
Soy bean	<0.31	<0.31	<0.31
Corn flour	<0.31	<0.31	<0.31
Buckwheat	<0.31	<0.31	<0.31
Peanut	<0.31	<0.31	<0.31
Almond (Roasted)	<0.31	<0.31	0.33
Cashew (Roasted)	<0.31	<0.31	<0.31
Macadamia (Roasted)	<0.31	<0.31	<0.31
Pistachio (Roasted)	<0.31	<0.31	<0.31
Walnut (Roasted)	<0.31	<0.31	<0.31
Sesame (Roasted)	<0.31	<0.31	<0.31
Black pepper	<0.31	<0.31	<0.31
Red pepper	<0.31	<0.31	0.45
Cumin	<0.31	<0.31	3.26
Coriander	<0.31	<0.31	<0.31
Poppy seed	<0.31	<0.31	<0.31
Shrimp	<0.31	<0.31	<0.31
Crab	<0.31	<0.31	<0.31
Squid	<0.31	<0.31	<0.31
Beef	<0.31	<0.31	<0.31
Pork	<0.31	<0.31	<0.31
Chicken	<0.31	<0.31	<0.31

This data is representative. Please contact us when you need lot data you use.

Egg : ppm (μg egg protein /g food), Casein : ppm (μg milk protein /g food)

Wheat/Gluten : ppm (μg wheat protein /g food),



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Cross reactivity of Allergen ELISA kits

Unit : ppm (μg protein /g food)

Food	Beta-lactoglobulin ELISA Kit II	Peanut ELISA Kit II	Buckwheat ELISA Kit II	Soya ELISA Kit II
Egg	<0.31	<0.31	<0.31	<0.31
Milk	>20	<0.31	<0.31	<0.31
Skim milk	>20	<0.31	<0.31	<0.31
Wheat	<0.31	<0.31	<0.31	<0.31
Barley	<0.31	<0.31	<0.31	<0.31
Rye	<0.31	<0.31	<0.31	<0.31
Oats	<0.31	<0.31	<0.31	<0.31
Soy bean	<0.31	<0.31	<0.31	>20
Corn flour	<0.31	<0.31	<0.31	<0.31
Buckwheat	<0.31	<0.31	>20	<0.31
Peanut	<0.31	>20	<0.31	<0.31
Almond (Roasted)	<0.31	<0.31	0.48	<0.31
Cashew (Roasted)	<0.31	<0.31	<0.31	<0.31
Macadamia (Roasted)	<0.31	<0.31	<0.31	<0.31
Pistachio (Roasted)	<0.31	<0.31	0.33	<0.31
Walnut (Roasted)	<0.31	<0.31	<0.31	<0.31
Sesame (Roasted)	<0.31	<0.31	1.67	<0.31
Black pepper	<0.31	<0.31	<0.31	<0.31
Red pepper	<0.31	<0.31	1.38	0.31
Cumin	<0.31	<0.31	<0.31	<0.31
Coriander	<0.31	<0.31	0.67	<0.31
Poppy seed	<0.31	<0.31	<0.31	<0.31
Shrimp	<0.31	<0.31	<0.31	<0.31
Crab	<0.31	<0.31	<0.31	<0.31
Squid	<0.31	<0.31	<0.31	<0.31
Beef	<0.31	<0.31	<0.31	<0.31
Pork	<0.31	<0.31	<0.31	<0.31
Chicken	<0.31	<0.31	<0.31	<0.31

This data is representative. Please contact us when you need lot data you use.

Beta-lactoglobulin : ppm (μg milk protein /g food), Peanut : ppm (μg peanut protein /g food)

Buckwheat : ppm (μg buckwheat protein /g food), Soya : ppm (μg soya protein/g food)

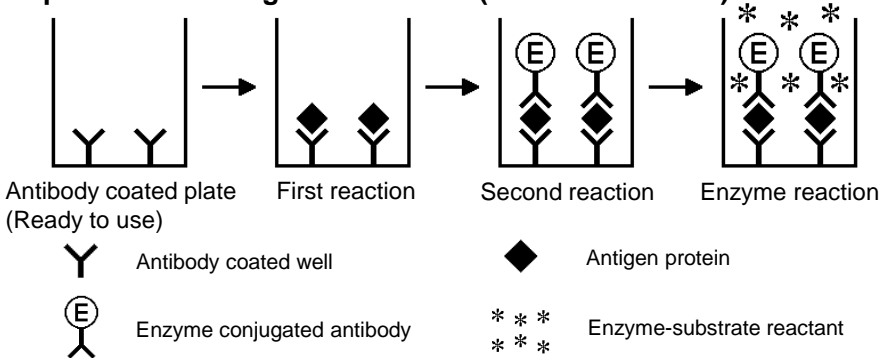


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Appendix

Principle of Food Allergen ELISA Kit II (sandwich ELISA)



The Antigen is bound to the polyclonal antibody coated wells of the microplate module. This results in the formation of an antigen-antibody complex in the wells. Unbound materials are removed by washing. Subsequently, the enzyme-conjugated antibody is bound to the already bound antigen-antibody complex, forming an antibody-antigen-antibody sandwich. A second washing step removes the excess conjugated antibody. Addition of enzyme substrate results in color development due to the enzyme bound to the complex. After addition of the stop solution, the color intensity of the solutions can be determined by the absorbance at 450 nm. The intensity of the color developed is directly proportional to the concentration of protein of allergic ingredients in the food. The concentration of its protein corresponding to the measured absorbance is determined by preparing a standard curve, and adjusting for a further dilution factor if necessary.

Related Food Allergen Test Kits

Food Allergen Lateral Flow IIR (qualitative test kit)

Cat.#	Product	Limit of Detection
M2201	Egg (Ovalbumin) Lateral Flow IIR	5 ppm
M2202	Casein Lateral Flow IIR	5 ppm
M2203	Gluten (Gliadin) Lateral Flow IIR	5 ppm
M2204	Buckwheat Lateral Flow IIR	5 ppm
M2205	Peanut Lateral Flow IIR	5 ppm

Egg : ppm (μg egg protein /g food), Casein : ppm (μg milk protein /g food)
Wheat : ppm (μg wheat protein /g food), Peanut : ppm (μg peanut protein /g food)
Buckwheat : ppm (μg buckwheat protein /g food)



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A woman with dark hair in a ponytail, wearing a white lab coat and gloves, is shown in profile, looking intently at a test tube she is holding. The background is a bright, out-of-focus laboratory. In the foreground, two large, blue-tinted test tubes are visible, one partially overlapping the other.

Science for Good Health

In order to contribute to good health of people in the world, we provide products, service, and information which give value and inspiration by the research and development filled with the pioneer spirit.