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**Rapid Test Easy for Egg (Cat.# M2241)**  
**Rapid Test Easy for Casein (Cat.# M2242)**  
**Rapid Test Easy for Gluten (Cat.# M2243)**

The Quick Detection for Protein of Allergic Ingredients  
in swabs and clean-in-place rinse water.

**10 Test Sticks**

**For Research or Laboratory Use Only.**  
**Not for Use in Diagnostic Procedures.**  
**Please read full descriptions in this manual before use.**

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### Intended Use

Rapid Test Easy quickly determines whether there are residual proteins of allergic ingredients in swabs and Clean-in-place rinse water. Water or phosphate buffered-saline (PBS) can be used to prepare test solutions. The kits use antibodies that are highly specific for particular proteins of allergic ingredients. Follow the instructions closely to obtain the best results. For testing proteins of allergic ingredients in unprocessed and processed food products, use Rapid Test Pro, Food Allergen ELISA or Food Allergen ELISA II.

**TABLE 1 : Performance characteristics**

Kit name	Detected protein	Detection limit	Reaction time
Rapid Test Easy for Casein	Ovomucoid	0.5 µg/mL (Total egg protein)	10 min
Rapid Test Easy for Casein	Casein	0.5 µg/mL (Total milk protein)	
Rapid Test Easy for Gluten*	Gliadin	0.425 µg/mL (Gluten) 0.5 µg/mL (Total wheat protein)	

\* For Rapid Test Easy Gluten, the detection limit of gluten in test solution is 0.85 µg/mL using the known conversion factor of 0.85 µg gluten per µg total whole wheat protein. (reference 1-4)

### Kit Storage

- Store the kit at 2-8°C (35-46°F), and DO NOT FREEZE.
- Do not use the kit after the expiration date indicated on the box.

### Kit Components

Kit components are listed in TABLE 2.

**TABLE 2: Kit components**

Component	Amount
Test stick	10 packs (1 stick/pack)
Swab kit (ST-25PBS*)	10 bottles
Instruction	1 sheet

\* ST-25PBS is manufactured by ELMEX LIMITED (URL: [www.elmex.co.jp](http://www.elmex.co.jp)).  
It is contained 10 mL of phosphate buffered saline per bottle.

### Warnings and Precautions

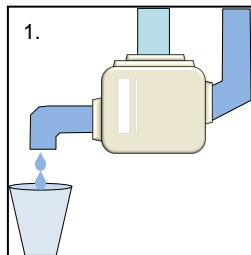
- Prior to use, bring the test stick to room temperature (20-30°C/68-86°F). If the package is unsealed while the test stick is cold, it absorbs moisture, and accurate judgment may be impaired. Also, correct results may not be obtained when the temperature at the time of the reaction is low.
- If there is a large amount of insoluble materials in the test solution, then centrifuge or filter the solution.
- The test solution should be tested at room temperature (20-30°C/68-86°F).
- Make sure to avoid cross-contaminations via tubes, containers, pipette tips, etc., and the use of disposable materials is recommended.
- Do not directly touch or wet the Sample application slot or Test window of the test stick.
- The results could be negative even if protein of allergic ingredients is present when its concentration is below the detectable level.
- False-negative results may occur if the Test Solution contains proteins of allergic ingredients at very high concentrations, due to the "high-dose hook effect" that is well known in one-step immunoassay systems.
- Accurate results may be impossible if the test solution contains a detergent.

**Note:** The extensive denaturation of proteins during processing can cause the proteins to become non-reactive to the antibody and/or insoluble, which may result in false-negative results. Therefore, there is a possibility that the specified area where processed foods is produced may still contain denatured proteins of allergic ingredients even though the test results show negative.

### Preparation of Test Solution

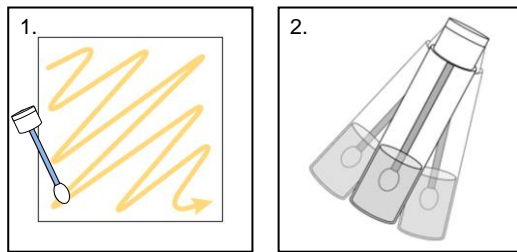
#### (A) Rinse water sample

- Clean-in-place rinse water is prepared and used as a **Test solution**.



#### (B) Surface swab test sample

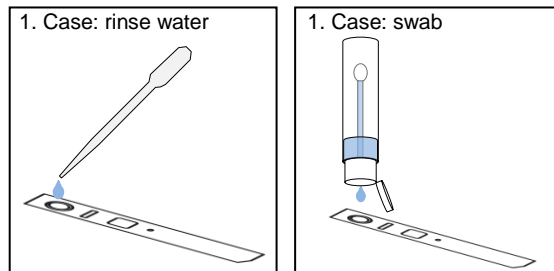
- Thoroughly wipe-off the specified surface area with the swab attached in the Swab kit.
- Immerse the swab into the bottle, shake it vigorously, and use it as a **Test solution**.



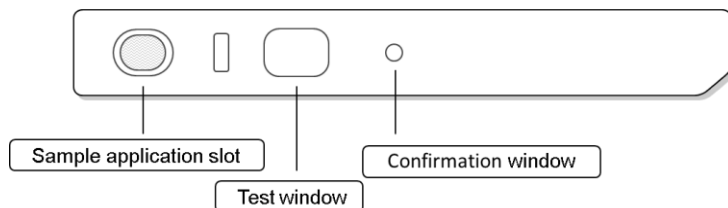
**Note:** Determine the appropriate amount of purified water or PBS used for testing. Commercial swab test kits using PBS can be used. The swab test kits containing protein such as peptone should be examined to use before testing.

### Chromatography Procedures

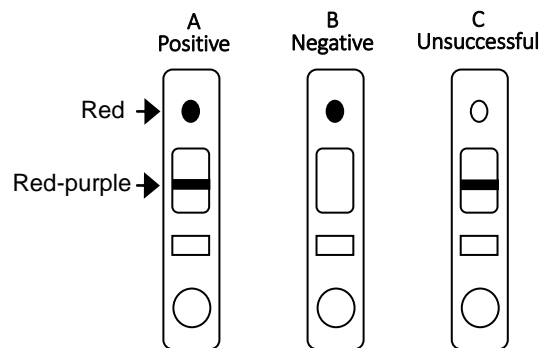
- Place the test stick horizontally and add 200 µL of **Test Solution** to the sample application slot. For Swab kit, add 4 - 5 drops of **Test Solution** to the sample application slot.



- Let it stand for 10 min at room temperature. Strictly observe the reaction time to achieve correct results.
- Interpret the results according to the criteria described below.



- A: A red-purple line in the test window together with a red color in the confirmation window indicates a **POSITIVE** result.
- B: No line in the test window together with a red color in the confirmation window indicates a **NEGATIVE** result.
- C: No color in the confirmation window indicates that the test was unsuccessful due to chromatographic failure. Repeat the test with a new stick.
- Samples with high viscosity may result in the unsuccessful chromatography.



### Reference

- T. B. Osborne (1924), *The Vegetable Proteins*, Longmans and Co., London, UK
- John Holme (1966), "A review of Wheat Flour Proteins and their functional properties", *The Bakers Digest*, Vol.40, pp.38-42
- S. Shibata and T. Nakae (Ed.) (1990), *Komugikoseihinno chisiki [Knowledge of wheat products]*. Japan, Saiwai Shobo
- Nihon mugirui kenkyuukai (Ed.) (1964), *Komugiko-sono genryou to kakouhin [Wheat-material and processing]* Japan, Yuni Atoo

### Warranty

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### Examples of testing procedure

