

Agitest™ Food Allergen Rapid Test Strip

Instruction Manual – HS-CASEIN

1. Brief Information

Agitest™ HS (high sensitivity) - CASEIN Food Allergen Rapid Test is an immunochromatographic test for the detection of casein in food. All reagents required for the test are included in the test kit. Results are interpreted visually. This test is suitable for the detection of unknown ingredient or ambiguous labeling in processed food. Agitest™ HS-CASEIN Food Allergen Rapid Test can be used with Agitest™ Environmental Swab Kit (Product Number: SR00013220) to validate and verify allergen cleaning regimes in manufacturing and analytical environmental. This test is also suitable for food quality control in food processing plants specifically with inbound goods, processing stages and final product.

*Detection limit:

- ◆ **0.2 ppm** casein from bovine milk.
- ◆ Casein in soybean flour: **1.24 mg/kg** casein
Casein in cake mix: **5.63 mg/kg** casein
(may vary with different matrix)
- ◆ **0.5 µg** casein per 100 cm² of sampling area.

*Specificity:

- ◆ Cross-reacts with brown rice and kidney beans.
- ◆ No cross-reaction with almond, buckwheat, egg, soy, gluten, and peanut.

2. Reagents provided

Each test kit contains

2.1	Rapid test strip	20 pouches
2.2	Buffer	85 mL, 1 bottle
2.3	Instruction manual	1 manual
2.4	Supplies:	
2.4.1	1.5 mL Microcentrifuge tube	40 pcs
2.4.2	4 mL Sample tube	20 pcs
2.4.3	Scoop	20 pcs
2.4.4	Dropper	20 pcs
2.4.5	Tubes Rack	2 pcs

3. Equipment/ materials required (not provided)

- 3.1 20 – 200 µL and 1,000 µL Pipetmans.
- 3.2 Accurate weighing scale.
- 3.3 Grinder or homogenizer.
- 3.4 Timer.
- 3.5 Vortex mixer (if available).
- 3.6 Agitest™ Environmental Swab Kit (Product Number: SR00013220) (20 pieces).
- 3.7 Clean water or distilled water.

4. Storage instructions

- 4.1 Store the test kit between 2 and 30 degrees Celsius.
- 4.2 Keep away from direct sunlight.
- 4.3 Do not freeze.

5. Warnings and precautions for users

- 5.1 Agitest™ products are for food testing and *In Vitro* diagnostic use only, not for human use.
- 5.2 Agitest™ products contain non-toxic buffers. To maintain test accuracy, please keep bottle upright to prevent leakage.
- 5.3 Agitest™ Rapid Tests are designed as a one-use test. Please do not re-use test strip.
- 5.4 Agitest™ Rapid Tests are very sensitive to humidity, which could render the test strips useless. Please keep the test strips away from humidity.
- 5.5 Agitest™ Rapid Tests are designed for screening purposes only. If analysis of ingredients is required, please send the sample to your local laboratory for further analysis.
- 5.6 To ensure test accuracy, please do not use expired test strips or omit the following steps include weighing samples or operating by pipetmans.
- 5.7 All samples require dilution with the buffer in this kit. Do not test the sample directly with the test strip.
- 5.8 Highly concentrated samples and food samples containing high level of polyphenols (e.g. coffee, tea, wine, chocolate etc.), high fat volume (e.g. peanut butter, oil etc.) or heavy food colouring (e.g. soya sauce) will affect the results of the tests.

6. Precautions for users before operation

- 6.1 **High concentration of casein in the sample could cause “hook effect”, which may lead to false negative results. If that is the case, further dilutions are needed before testing. It is possible to use up to two strips to complete one test with the kit (please refer to “Test implementation” 8.1).**
- 6.2 Airborne casein powder and dirty equipment can lead to casein contamination of the test strip and affect the results. In order to avoid cross-contamination during the operation, please clean equipment and surfaces with 75% ethanol before operating and wear gloves while performing the test to ensure detection accuracy.

7. Preparation of samples

- 7.1 For liquid food/ drinks:
 - 7.1.1 Take 50 µL of sample and 450 µL buffer into a 1.5 mL microcentrifuge tube and mix well (the dilution factor of 10) (**factor 10**).
 - 7.1.2 Take 50 µL of prepared sample in 7.1.1 and 450 µL buffer into a 1.5 mL microcentrifuge tube and mix well (the dilution factor of 100) (factor 100).

7.1.3 Take 50 µL of prepared sample in 7.1.2 and 450 µL buffer into a 1.5 mL microcentrifuge tube and mix well (the dilution factor of 1000) (**factor 1000**).

7.2 For solid food:

7.2.1 Weigh 0.3 g of sample (grind finely) into a 4 mL sample tube with a provided scoop.

7.2.2 Add with 3,000 µL buffer into the 4 mL sample tube (the dilution factor of 10) (**factor 10**).

7.2.3 Vortex/ mix for 30 seconds.

7.2.4 Leave sample mixture to settle for 1 minute.

7.2.5 Measure 500 µL (or 15 drops by dropper) of the sample mixture supernatant into a 1.5 mL microcentrifuge tube.

7.2.6 Take 50 µL of prepared sample in 7.2.5 and 450 µL buffer into a 1.5 mL microcentrifuge tube and mix well (the dilution factor of 100) (factor 100).

7.2.7 Take 50 µL of prepared sample in 7.2.6 and 450 µL buffer into a 1.5 mL microcentrifuge tube and mix well (the dilution factor of 1000) (**factor 1000**).

7.3 Environmental swab test:

7.3.1 Transfer 500 µL (or 15 drops by dropper) of buffer into a 1.5 mL microcentrifuge tube.

7.3.2 Wet the cotton swab in the Agitest™ Environmental Swab Kit with clean water.

7.3.3 Swab the sample with the pre-wetted cotton swab (A sampling surface area of 100 cm² is recommended).

7.3.4 Place the cotton swab in the 1.5 mL microcentrifuge tube making sure to immerse the cotton swab head in the buffer.

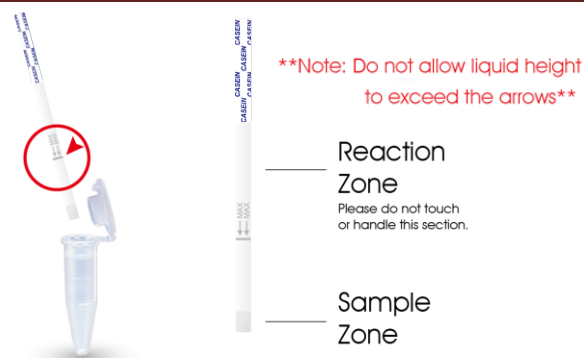
7.3.5 Gently agitate the cotton swab in the buffer for at least 30 seconds (Please avoid spilling the buffer).

7.3.6 Remove the cotton swab from the 1.5 mL microcentrifuge tube and leave the tube to rest for 1 minute. **The sample can be tested without further dilution.**

8. Test implementation

8.1 The **factor 10** and **factor 1000** samples need to be prepared first (see "Preparation of samples" 7.1 ∙ 7.2). Since the concentration of casein in the sample is unknown, the **factor 10** sample is tested first, and if it is positive, the result can be judged as positive; only when the **factor 10** sample test is negative, the **factor 1000** sample should be tested for the result judgment (it is not necessary to test the factor 100 sample).

8.2 Open the alu-pouch and take out the test strip. (Please handle the coloured sticker portion only and avoid contact with the reaction zone). Insert the test strip into the 1.5 mL microcentrifuge tube.



➤ **Wait 15 minutes for the results. Please read the results immediately without further manipulation.**

9. Results analysis

9.1 **Positive result:** either **factor 10** or **factor 1000** sample has **two color bands** visible, or both have two color bands visible, within the reaction zone (see Fig. 9-① ∙ 9-② ∙ 9-③).

9.2 **Negative result:** both **factor 10** and **factor 1000** samples have only **one color band** (C line) visible (see Fig. 9-④).

9.3 **Invalid result:** **no colored band** (C line) is visible, the test is considered invalid (see Fig. 9-⑤).

*Please check the following:

- If the test strip packaging is damaged.
- If the test strip is damp.
- If the sample is too viscous or too concentrated. Please retest with a new test strip.

	Factor 10 sample	Factor 1000 sample	Results
9-①			Positive
9-②			Positive
9-③			Positive
9-④			Negative
9-⑤			Invalid

***NOTE:**

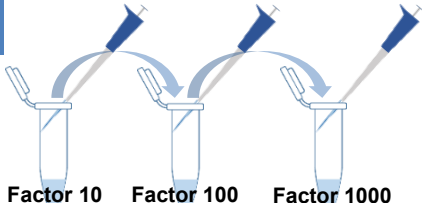

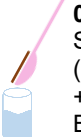





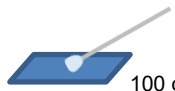
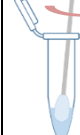
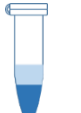
➤ **Please read test results within 30 minutes to ensure optimum accuracy.**

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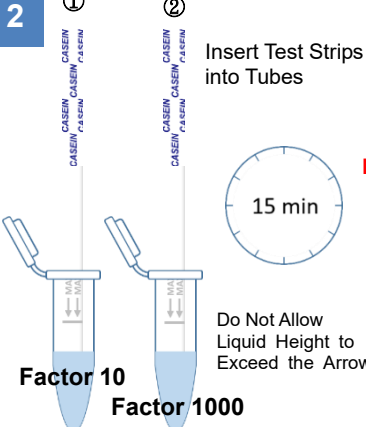
A. Materials Needed:

	Liquid Sample	Solid Sample	Environmental Swab Test
4 mL Sample Tube		•	
1.5 mL Microcentrifuge Tube	•	•	•
Pipetmans or Droppers	•	•	•
Scoop		•	
Swab (Optional)			•

B. Preparation of Samples

Liquid Sample				<p>① <u>Factor 10</u> : 50 µL Liquid Sample+450 µL Buffer</p> <p>② <u>Factor 100</u> : 50 µL Prepared Sample (Factor 10) +450 µL Buffer</p> <p>③ <u>Factor 1000</u> : 50 µL Prepared Sample (Factor 100) +450 µL Buffer</p>	<p>②</p>  <p>Vortex or Mix</p>
Solid Sample	<p>①</p>  <p>0.3 g Solid Sample (Grind Finely) +3,000 µL Buffer</p>	<p>②</p>  <p>Vortex or Mix 30 s</p>	<p>③</p>  <p>Settle Down 1 min</p>	<p>④</p>  <p>① <u>Factor 10</u> : Pipette 500 µL Sample Mixtures Supernatant to 1.5 mL Tube</p> <p>② <u>Factor 100</u> : 50 µL Prepared Sample (Factor 10) +450 µL Buffer</p> <p>③ <u>Factor 1000</u> : 50 µL Prepared Sample (Factor 100) +450 µL Buffer</p>	
Environmental Test	<p>①</p>  <p>Transfer 500 µL Buffer</p>	<p>②</p>  <p>Wet the Swab with Clean Water</p>	<p>③</p>  <p>Swab the Sampling Surface 100 cm² is Recommended</p>	<p>④</p>  <p>Agitate the Swab for 30 sec 30 s</p>	<p>⑤</p>  <p>Remove the Swab and Settle Down 1 min</p>

C. Strip Testing and Result Analysis

<p>①</p>  <p>Remove Strips from Package</p>	<p>②</p>  <p>Insert Test Strips into Tubes 15 min Do Not Allow Liquid Height to Exceed the Arrows</p>	<p>① Factor 10</p> <p>Positive Negative</p> <p>② Factor 1000</p> <p>Positive Negative</p>
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Factor 10 sample	Factor 1000 sample	Results
		Positive
		Positive
		Positive
		Negative
		Invalid

Environmental Test Result Analysis:

Positive result: two colored bands (the C and T red test bands) are visible within the reaction zone.

Negative result: one colored band (the C red test band) is visible within the reaction zone.

Invalid result: no colored band (the C band) is visible within the reaction zone, the test is considered invalid.