

Gliadin Allergen Rapid Test Kit

Cat no. LDG0003LR



Description



Gluten, a storage protein in wheat, rye, barley, and oats, is a common food allergen, with gliadin being the primary trigger for immune reactions in gluten-related disorders, which affect approximately 1-6% of the global population. The mainstay of treatment is adherence to a gluten-free diet, which is also being adopted by some with chronic diseases due to gluten's pro-inflammatory properties. This increasing awareness has heightened demand for gluten detection tests, especially considering the varying international gluten-free labeling standards (e.g., <20 ppm in the US, EU, UK, and Canada versus no detection levels in Australia and New Zealand).

The Gliadin Allergen Rapid Test Kit is based on the sandwich lateral flow immunoassay (LFIA) principle and is specifically designed to detect gliadin. This method uses highly specific antibodies to capture and visualize the gliadin, providing rapid, equipment-free results. A potential limitation of sandwich immunoassays is the hook effect (also known as the prozone effect), which may lead to false-negative or underestimated results at very high analyte concentrations due to antibody saturation. However, this Gliadin Allergen Rapid Test Kit incorporates a H line (hook line) to eliminate the interference of the hook effect, ensuring accurate detection even at high gliadin levels.

Kit Components



| Components | | Quantity |
|--|--|------------|
| Gliadin Lateral Flow Device | | 10 pcs |
| Prefilled Extraction Tube with Dropper Tip and Scoop (2 mL Extraction Buffer/bottle) | | 10 bottles |
| Single-use Dropper | | 10 pcs |
| Single-use Sampling Swab | | 10 pcs |
| Instruction Manual | | 1 |

Sample Requirements and Dilution Conditions



| Sample Type | Dilution Requirements |
|----------------------------|--|
| Solid Samples | Take a spoonful of sample and immerse it in Extraction Buffer for lysis |
| Liquid Samples | Add 20 drops of sample to the Extraction Buffer (sample to buffer ratio of 1 to 5) |
| Environmental Swab Samples | Collect a surface sample from a 10×10 cm area using a swab and immerse the swab in Extraction Buffer for lysis |

Note



To prevent accidental ingestion of Extraction Buffer, first transfer the sample to a separate container for testing. Do not consume the sample after testing.

For Environmental Swab Samples, please clean the sampled area with water and alcohol after collection.

Materials Required but Not Provided



Timers

Performance



The Gliadin Allergen Rapid Test Kit has a minimum detection limit for gliadin of approximately 10 ng/mL (10 ppb).



Storage



Test kits should be stored at room temperature.

Test devices must remain in the sealed foil pouch until use, as they are sensitive to humidity.

Test kits are for single use only and should not be reused.

Do not use the kit if the package is damaged, or the physical appearance is altered.



1



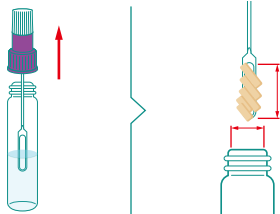
- Thoroughly clean your hands before operation to minimize the risk of gliadin contamination.

2



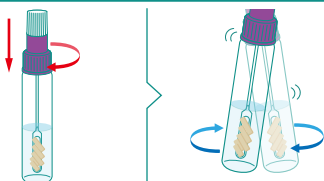
- Remove the test device from the foil pouch and place it on a clean and level surface.

3



- Use the provided scoop (attached to the Extraction Tube) to collect one scoopful of the sample. Ensure that the sample's length approximately matches the length of the scoop's bowl, and that its width does not exceed the opening of the Extraction Tube.

4



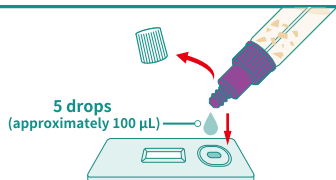
- Immerse the sample into the Extraction Tube, tighten the cap, and shake the tube thoroughly to ensure the Extraction Buffer fully soaks the sample.

5



- Let the sample sit in the Extraction Tube for **one minute** to allow complete lysis.

6



- Unscrew the dropper tip cap on the Extraction Tube and dispense **five drops (approximately 100 µL)** of the sample into the sample well of the test device

7



- Interpret the result after **5 minutes**. Do not interpret results after 15 minutes.

Liquid Samples

1



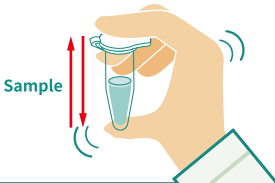
- Thoroughly clean your hands before operation to minimize the risk of gliadin contamination.

2



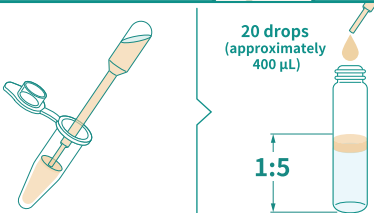
- Remove the test device from the foil pouch and place it on a clean and level surface.

3



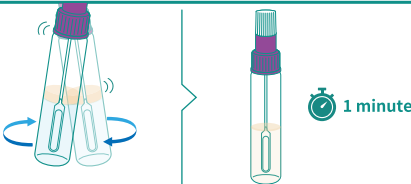
- Shake or stir the sample to be tested to ensure it is homogeneous.

4



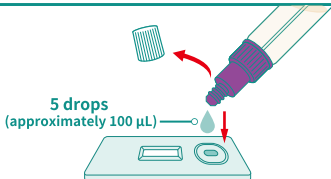
- Using the Single-use Dropper, draw up the sample and add **20 drops (approximately 400 µL)** of the sample into the Extraction Tube, ensuring a sample-to-Extraction Buffer ratio of **1:5**.

5



- Tighten the cap of the Extraction Tube, shake it thoroughly to mix, and let it stand for one minute to allow complete lysis.

6



- Unscrew the dropper tip cap on the Extraction Tube and dispense **five drops (approximately 100 µL)** of the sample into the sample well of the device.

7



- Interpret the result after **5 minutes**. Do not interpret results after 15 minutes.

Environmental Swab Samples

1



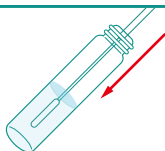
- Thoroughly clean hands before operation to reduce the risk of gliadin contamination.

2



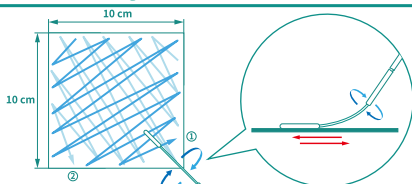
- Remove the test device from the foil pouch and place it on a clean and level surface.

3



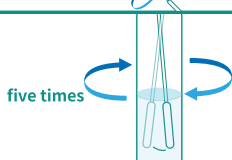
- Immerse the Single-use Sampling Swab into the Extraction Buffer to wet it with the Extraction Buffer.

4



- Use a crosshatch technique to swab a 10 x 10 cm surface area for sample collection, ensuring full contact with the swab bulb.

5



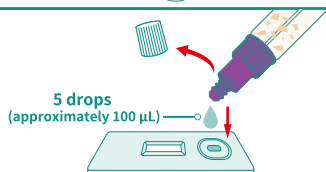
- Immerse the swab sample into the Extraction Tube, then roll the swab at least **five times**.

6



- Leave the swab in the Extraction Tube for **one minute** to ensure complete lysis.

7







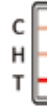






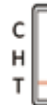

- Remove the swab and tighten the cap of the Extraction Tube. Unscrew the dropper tip cap on the Extraction tube and dispense **five drops (approximately 100 µL)** of the sample into the sample well of the device.

8



- Interpret the result after **5 minutes**. Do not exceed 15 minutes.

Result Interpretation

| <div>↑ Toward the Top</div> <div></div> | Result | Result Window | Result Interpretation |
|---|--------------------|---|---|
| | Negative |  | A negative result is indicated when the T line (T) is absent and only the C line (C) and H line (H) are visible. |
| | Positive |    | The appearance of the T line (T) together with the C line (C) and H line (H) indicates a positive result. |
| | High Positive |   | |
| | Very High Positive |   | Disappearance of the H line (H), or both the H line (H) and the T line (T), may indicate an excessive amount of allergen protein in the sample. |
| | Invalid |     | No colored line in the Control region (C) indicates an invalid test. |

Example

1

2

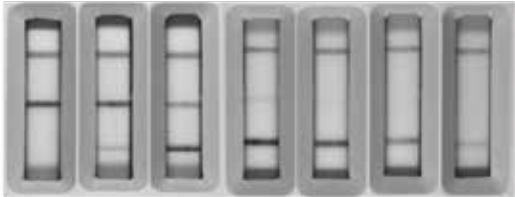
3

4

5

6

7



C

H

T

Lane 1 : Buffer only

Lane 2 : Gliadin 10 ng/mL

Lane 3 : Gliadin 100 ng/mL

Lane 4 : Gliadin 1 µg/mL

Lane 5 : Gliadin 10 µg/mL

Lane 6 : Gliadin 100 µg/mL

Lane 7 : Gliadin 1 mg/mL

The example presented herein are intended solely for qualitative demonstration purposes. This product is not designed for quantitative analysis and should not be used to determine the exact concentration of any analyte.



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Gliadin Allergen Rapid Test Kit



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