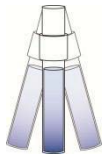
AgraStrip® β-Lactoglobulin

Order #: COKAL1010AS

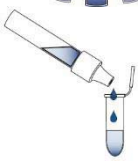
β-Lactoglobulin (BLG)

Allergy to bovine milk represents the most common food allergy and is mostly found in infants below the age of three. Typical food allergen symptoms have been reported after the intake of even small amounts of milk and they include skin, gastrointestinal, respiratory and systemic reactions, as well as fatal anaphylaxis. Many processed foods like cookies, chocolate or bakery products may contain milk. People allergic to milk must strictly avoid the consumption of food containing milk. Cross contamination during the production process often occurs and milk residues in food cannot be excluded. Therefore sensitive detection methods for milk in food are required. Considering that roughly 20% of bovine milk protein are whey proteins, whose main component is ß-Lactoglobulin, Romer Labs® offers AgraStrip® ß-Lactoglobulin Assay in order to reliably detect the presence of milk in food.

Short instructions



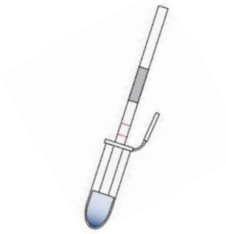
Perform extraction for finished product, rinse water or swab.



Transfer **12 drops** of extract to incubation vial.

Shake incubation vial vigorously by hand for **15 seconds**.

Incubate for **5 minutes** at room temperature.



Insert test strip into the solution and incubate for **5 minutes.**
Read result immediately.

Performance Characteristics:

LOD: 0.5 ppm BLG* (Finished product & rinse water testing)
0.5 µg/25cm^2 BLG** (Swab testing)

* LOD was determined in extraction solution
** LOD was calculated

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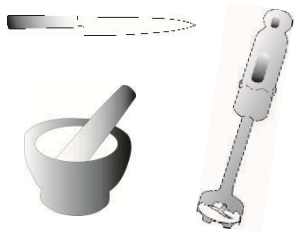
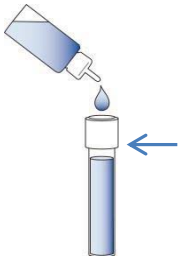
Sample preparation – Finished Products and Rinse Water

1. Homogenize the sample (i.e. blend, crush, grind)

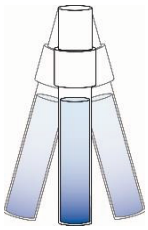


2. Add **0.2 mL** Rinse water or **0.2g** of sample (weigh with Balance or estimate by filling up one of the extraction tube caps) to the sample extraction tube

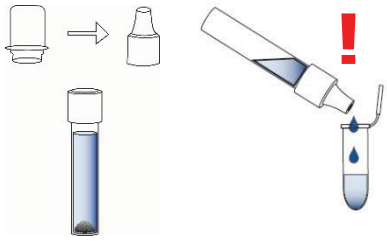
3. Fill Extraction Tube with ***Extraction Buffer*** to level shown below (blue arrow)



4. Close tube with tube cap, and shake vigorously by hand for **1 minute**.



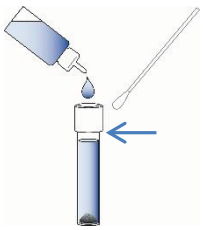
5. Remove cap from the Extraction Tube and replace with dropper tip. And transfer **12 drops** (**400µl**) to an incubation vial.



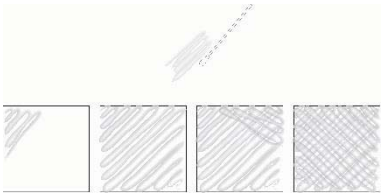
Proceed to the Assay Section (page 3) to complete your test

Sample preparation – Swab Testing

1. Fill extraction tube with **Extraction Buffer** to level shown below (blue arrow), take a swab and wet the end by dipping into the buffer

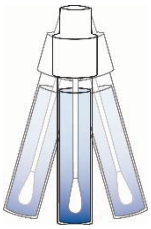


2. Wipe an area of ***5cmx5cm*** using side to side movements, rotating the swab tip as you go (we recommend the "cross-hatch" swabbing technique indicated below)

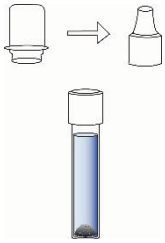


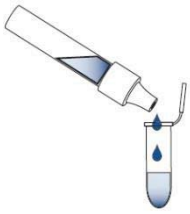
3. Place the swab into the extraction tube. Carefully break off the end at the pre-scored point.

4. Close the tube with a cap and shake vigorously for **1 minute**



5. Remove cap from the Extraction Tube and replace with dropper tip. And transfer **12 drops** (**400µl**) to an incubation vial.





Proceed to the Assay Section (page 3) to complete your test

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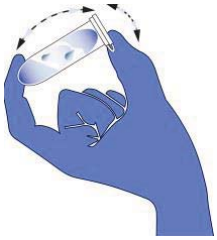
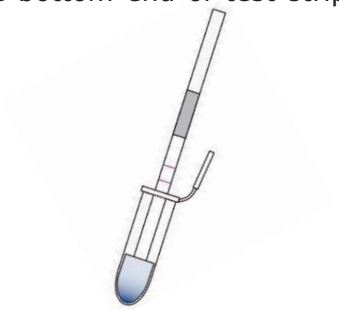
Assay Procedure in detail

1. Shake Incubation Vial vigorously by hand for **15 seconds** (ensuring liquid comes in contact with the lid of the vial) then leave to stand at room temperature for **5 minutes**.

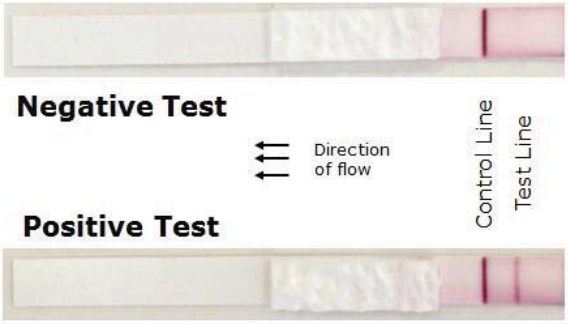


2. Open the container of AgraStrips®, remove the necessary number of strips and close the tube. Open the Incubation Vial and insert the bottom end of test strip into the vial.



3. Remove the test strip from the Incubation Vial **after 5 minutes** and read the result immediately.

Interpretation of Results



One single purple line in the central part of the test = negative result
(It is possible that the strip will turn pink during testing. In this case, the test line can appear as a white line on a pink background. This indicates a negative test result, and does not affect the performance of the test)

Two purple lines in the result zone = positive result. The sample contains allergen higher than the cut-off level and further investigations should be performed

No control line appears = invalid result, regardless of whether the test line appears. In the case of an invalid result, please repeat the procedure with a new strip. If the problem persists, please contact Romer Labs® before continuing further.

Important advice for the proper execution of the test:

- It is important to ***read the results immediately after the 5 minute*** **incubate step** since the AgraStrip® test system has been validated extensively and shows reliable results after that exact time. Longer incubation times can lead to the development of false positive results.

- The AgraStrip® Allergen lateral flow tests are for the ***detection of trace amounts of allergens*** in a low ppm range. If the sample contains more than 1% (10000ppm) allergen, the test will come up negative.

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Performance Characteristics in Detail

Limit of detection: 0.5 ppm BLG (Finished product & rinse water testing)
0.5 μg/25cm^2 BLG (Swab testing)

Range of detection: 0.5 – 100 ppm BLG
15 – 3000 ppm skimmed milk powder

pH range: Performing the assay in a pH range of 6-8 will lead to reliable results. Highly acidic samples can lead to false positive results whereas in an alkaline milieu there is the tendency to false negative results.

Materials Supplied with Kit:

1 Tube containing 10 AgraStrip® BLG Strips

1 Dropper Bottle (***green label***) containing 35mL **Extraction Buffer**

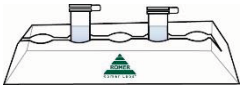
10 incubation vials

10 Extraction Tubes

10 Tube Caps

10 Extraction Tube Dropper Tips

10 Breakpoint Swabs



1 Tube Holder

Materials required but not supplied for solid sample preparation

- Blender or Crusher or Blade

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Technical and Background Information

The AgraStrip® β-Lactoglobulin Test Kit is a lateral flow assay for the detection of β-Lactoglobulin content in food, rinse waters and environmental swab samples.

β-Lactoglobulin Allergy
Allergy to bovine milk represents the most common food allergy and is mostly found in infants below the age of three. Typical food allergen symptoms have been reported after the intake of even small amounts of milk and they include skin, gastrointestinal, respiratory and systemic reactions, as well as fatal anaphylaxis. Many processed foods like cookies, chocolate or bakery products may contain milk. People allergic to milk must strictly avoid the consumption of food containing milk. Cross contamination during the production process often occurs and milk residues in food cannot be excluded. Therefore sensitive detection methods for milk in food are required. Considering that roughly 20% of bovine milk protein are whey proteins, whose main component is ß-Lactoglobulin, Romer Labs® offers AgraStrip® ß-Lactoglobulin Assay in order to reliably detect the presence of milk in food.

Assay Principles
Immunological rapid test in lateral flow format for the detection of β-Lactoglobulin in food, rinse waters and swab samples (environmental samples). The extracted sample is transferred to an incubation vial that contains specific ready - to - use antibodies. If the sample contains β-Lactoglobulin, an antigen-antibody complex will form. This is subsequently detected by the test strip. The test is easy to use, fast and reliable.

Precautions

1. The product must be stored in its original package, between 15 and 25°C (room temperature). Do not use components beyond the expiration date indicated on the kit labels. Do not open the product until needed.
2. Test strips must be kept inside their original packaging, closed as tightly as possible. Do not freeze.
3. Adhere to the instructions for test procedures.
4. The components in this test kit have been quality control tested as a standard batch unit. Do not mix components from different lot numbers.

Sampling:
Consideration must be taken that the food may contain an uneven distribution of β-Lactoglobulin (spot contamination). It is important to test a representative portion of food as only a small amount of material is tested with the AgraStrip® β-Lactoglobulin test.

Detection:
The detection limit of the AgraStrip® β-Lactoglobulin test is at the low ppm level but will vary depending on the food matrix being tested. To give reliable results each individual matrix should be validated before the kit is used routinely.
For further information regarding validation please contact Romer Labs.

Note:
! Chocolate and flour samples may block the filter tip of the extraction tube. This can be avoided by transferring the extract directly from the extraction tube to the reaction vial using a pipette or by hand to a level just under the 0.5ml graduation of the reaction vial !

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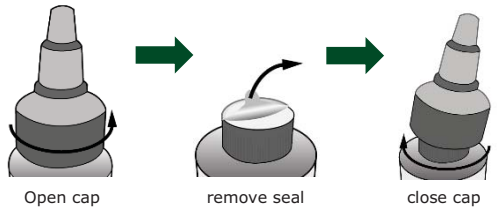
Handling of the new improved AgraStrip® extraction buffer bottles



When opening the bottle for the 1st time, please take off the cap, peel off the seal and screw the cap back on the bottle.

To **open** the bottle just hold the neck of the upper part with your fingers and twist the corrugated screw top counterclockwise.

To **close** the bottle twist the screw top clockwise.

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