



LATERAL FLOW TEST KIT

for the detection of cow's milk in sheep's or goat's milk

This Lateral Flow test kit is manufactured by ProGnosis Biotech S.A.

ProGnosis Biotech S.A. is ISO 9001:2015 certified by TÜV Hellas (TÜV NORD).

Use only the current version of Product Data Sheet enclosed with the kit.

Rapid Test Cow, Q1230/Q12120, is a lateral flow test that determines cow's milk in sheep's or goat's milk.

This kit contains all reagents and hardware required and is adequate for 30 definitions.

- Test Time : 3 min
- Limit of detection (LOD) : 0.1% cow's milk in sheep's or goat's milk.
- Shelf life: 12 months

This is an electronic version, please verify always the last one included in the kit.

1. Description

Rapid Test Cow is an innovative Lateral Flow test for the quantitative detection of cow's milk in sheep's or goat's milk.

2. General Information

Higher priced milk with limited seasonal availability is commonly and fraudulently adulterated with milk with lower price from other species like cow. Adulterated milk either used in direct human consumption or in cheese manufacture (like feta which is Protected Designation of Origin, PDO) results in a final product inferior to that expected by the consumer. In addition, Cow's milk allergy (CMA) is one of the most common food allergies. Milk can induce allergic reactions at infancy, this allergy is normally outgrown in the first year of life, however 15% of allergic children remain allergic, as a result cow milk must be declared as an ingredient on food labels.

In many cases, at the quality control of dairy products there is a need for quick scan of milk adulteration. This lateral flow kit can be used to detect the presence of cow's milk, in sheep or goat milk.

3. Principle of the Method

Cow IgG (immunoglobulin G) is naturally present in cow's milk and the presence of this milk in a milk sample is determined by the immunological detection of cow IgG. Lateral flow test membrane holds very specific antibodies against cow IgG and a validity check system of the test strip which form the test and control line respectively. After the dilution of the milk sample, in the test tube, using the provided Dilution Buffer, the test strip is immersed into the solution. As soon as the sample solution soaks the sample pad and it reaches the bottom edge of the membrane, capillary flow through the membrane takes place. While the sample solution migrates through the sample pad, it dissolves the test and control detection system particles that were dried on it. As the flow continues and in case the sample was adulterated with cow's milk, bovine immunoglobulins get bound by both the test line antibodies and the test detection system particles. This leads to the formation of a color indicating line. At the same time the control system gets bound by the immobilized control line antibodies which produces a color line as well, indicating the validity of the test strip.

4. Reagents Provided

	Q1230	Q12120
Vial containing 30 Lateral Flow test sticks	1	4
Dilution Buffer dropper bottle	1	4
Disposable plastic pasteur pipettes	30	120
Clear plastic test tubes	30	120
Tube rack	1	1

5. Materials required but not provided

- 100 µL adjustable single channel micropipette with disposable tips
- 200 µL adjustable single channel micropipette with disposable tips

- S– Flow software along with matching scanner device provided by lateral logic ltd

6. Storage Instructions

Store kit components between 15 and 25°C (59 - 77°F). Do not freeze any components provided. Reseal the unused strips in the storing tube together with the desiccant bag provided. Expiry of the kit and reagents is stated on their labels and no quality guarantee is accepted after the expiration date. The expiry of the kit components can only be guaranteed if the components are stored properly and the reagent is not contaminated prior handling. Do not interchange individual components between kits of different lot numbers.

7. Safety and Precautions for use

- Cover or cap all reagents when not in use.
- Always use a new disposable pasteur pipette for each sample to avoid contaminations and false readings.

8. Sensitivity

The visual sensitivity of the method is approximately 0.1% adulteration of sheep' s or goat's milk with cow's milk.

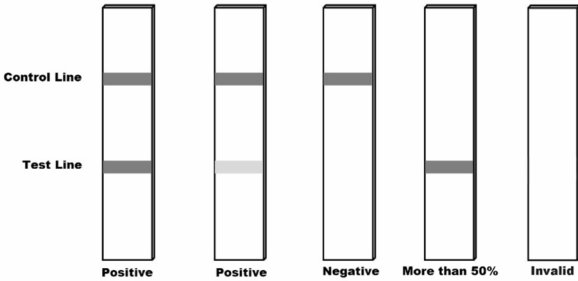
9. Qualitative Method Procedure

1. Introduce one drop of the sample into the test tube using one of the disposable pasteur pipettes provided with the kit.
Note: The milk sample to be analyzed needs to be fresh, at room temperature and without having undergone any thermal processing or showing signs of denaturation.
2. Add 4 drops of the Dilution Buffer to the tube from the dropper bottle.
3. Shake the test tube lightly for 10 seconds.
4. Immerse a test stick into the test tube following the direction shown by the arrows, so the uncovered area of the stick gets soaked.
Note: In case the test stick gets inserted in the wrong direction (arrows pointing up) and gets wet at the top label area, it becomes useless and has to be replaced with a new test stick.
5. After 3 minutes, the test stick can be visually read and interpreted according to the following table and corresponding figure.
Note: If the test is not read within 10 minutes, it is considered to be invalid and safe results cannot be obtained.

Result interpretation table

Control line & Test line	Positive result : Cow's milk detected
Control Line & Weak Test line	Positive result : Cow's milk detected
Control line only	Negative result : No Cow's milk detected
Test line only	Positive result : Cow's milk detected more than 50%
No lines	Invalid

Visual result interpretation index



10. Quantitative Method Procedure

1. Introduce 30µL of the sample into the test tube using a single channel micropipette.
Note: The milk sample to be analyzed needs to be fresh, at room temperature and without having undergone any thermal processing or showing signs of denaturation.
2. Remove the dropper tip of the Dilution Buffer bottle and add 180µL into the tube using a single channel micropipette.
3. Shake the test tube lightly for 10 seconds.
4. Immerse a test stick into the test tube following the direction shown by the arrows, so the uncovered area of the stick gets soaked.
Note: In case the test stick gets inserted in the wrong direction (arrows pointing up) and gets wet at the top label area, it becomes useless and has to be replaced with a new test stick.
5. After 3 minutes, take the test stick out of the test tube.
6. **Remove the white sample-pad of the stick.** Hold the test stick from the top and remove the white sample-pad with your hands. Do not use any other material.
7. Place the stick inside the plastic holder in order to be scanned. In case of S-Flow scanner, the sticks must be facing up. In case of EPSON scanner, the sticks must be facing down (inverted) and the colored side must be facing the orange sticker.
8. Use S-flow software to quantify results as soon as possible and no later than 1 minute after the end of flow. The software will use a Lot specific curve to calculate the results. Refer to the S-Flow manual for a detailed description of the quantification procedure.
9. The range of quantification is between 0% and 2% adulteration of cow's milk, in sheep or goat milk. In compliance with Commission Regulation (EC) No 519/2014, "Suspect sample" (screen positive) is considered to be any sample with more than 0.7% adulteration. Screen positive result means the sample exceeds the cut-off level and may contain adulteration at a level higher than 1%. Any suspect result triggers a confirmatory analysis for unambiguous identification and quantification of adulteration.

11. Cheese sample preparation

The test should be used with cheese produced with milk heated at temperatures 90°C /15-20 seconds or below.

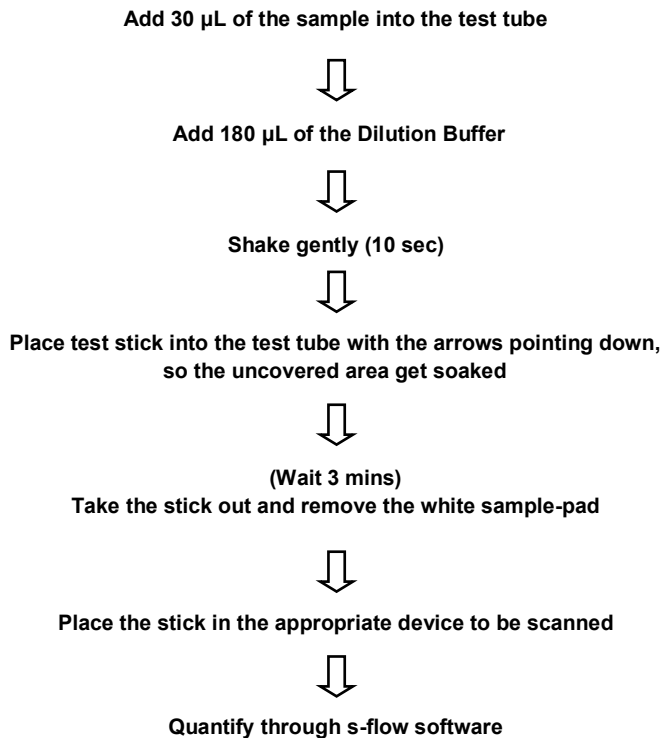
Weigh 5 gr of a homogeneous cheese sample and add 10 mL of distilled water. Mix with a pestle and mortar to obtain a fine homogenized sample and centrifuge at 3000 x g for 10 minutes. Alternatively, the sample can be filtered using a filter paper.

The supernatant or the filtered solution will be used for testing like a regular milk sample.

Limit of Detection in cheese: 0.5% of mixture.

12. Summary of method

Total method time: 3 minutes



All immune assays supplied by ProGnosis Biotech S.A., are warranted to meet or exceed our published specification when used under normal conditions in your laboratory. If the product fails during the stated period, a replacement product will be issued.

ProGnosis Biotech S.A. makes no warranty of any kind, either expressed or implied, except that the materials from which its products are made are of standard quality. There is no warranty of merchantability of this product, or of the fitness of the product for any purpose. ProGnosis Biotech S.A. shall not be liable for any damages, including special or consequential damage, or expense arising directly or indirectly from the use of this product. This method is considered to be a screening method, before a legal action, samples detected as positives must be confirmed with a confirmation method. This product is meant to be used only For Research or Manufacturing use and by qualified technicians.



LATERAL FLOW TEST KIT

for the detection of cow's milk in sheep's or goat's milk

This Lateral Flow test kit is manufactured by ProGnosis Biotech S.A.

ProGnosis Biotech S.A. is ISO 9001:2015 certified by TÜV Hellas (TÜV NORD).

Use only the current version of Product Data Sheet enclosed with the kit.

Rapid Test Cow, Q1230/Q12120, is a lateral flow test that determines cow's milk in sheep's or goat's milk.

This kit contains all reagents and hardware required and is adequate for 30 definitions.

- Test Time : 3min
- Limit of detection (LOD) : 0.1% cow's milk in sheep's or goat's milk.
- Shelf life: 12 months



www.prognosis-biotech.com
e: info@prognosis-biotech.com
t: +30 2410 623922
f: +30 700 700 6262
Farsalon 153 | 41335 Larissa, Greece

