

The logo features a stylized orange circular brushstroke on the left, containing three black right-pointing triangles. To the right of this graphic, the text "RAPID TEST COW 25" is written in a bold, orange, sans-serif font, and "QUANTITATIVE" is written below it in a bold, black, sans-serif font.

# RAPID TEST COW 25 QUANTITATIVE

## 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 25, Q1740/Q1780 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 40 or 80 reactions.

Test Time : 5 min

Limit of detection (LOD) : 0.6% cow's milk in sheep's milk

Limit of quantification (LOQ) : 1.0% cow's milk in sheep's milk

Shelf life: 12 months

Storage: 4 - 25°C

## 1. Description

The Rapid Test Cow 25 is a lateral flow test for the quantitative determination 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

Bovine 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. The detection system of the Rapid Test Cow 25 consists of specific antibodies against cow IgG conjugated with colloidal gold. After a dilution of the milk sample, in the dilution tube provided, the milk sample can be used directly into the cassette device. During testing, the milk sample flows through the membrane carrying along the detection system. If cow immunoglobulins are present in the sample, they bound to gold-labeled antibodies, forming a complex that is captured by the test line, resulting in the development of a red colored line. Conversely, if Cow IgG is absent, the test line will not appear. At the same time the control system gets bound by the immobilized control line antibody which produces a color line as well, indicating the validity of the test strip. The test line color intensity can be utilized to quantify the percentage of cow's milk present in the sample.

## 4. Reagents provided

The Rapid Test Cow 25 kit contains sufficient reagents and materials for 40/80 reactions.

- 40/80 tests (cassette format) in foils

- 40/80 disposable plastic pipettes
- 40/80 Sample Diluent tubes (pre-diluted) with dropper tip
- Instruction manual

## 5. Materials required but not provided

- Clock or timer
- 100 $\mu$ L or 200 $\mu$ L adjustable single channel micropipette with disposable tips
- S-Flow software along with matching reader device provided by lateral logic ltd

## 6. Storage instructions

Store kit components between 4 - 25°C. Do not freeze any components 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 due to prior handling. Do not interchange individual components between kits of different lot numbers.

## 7. Safety and precautions for use

All reagents should be brought to room temperature (21 - 25°C) before use (at least half an hour). Do not re-use any of the kit components. Do not use thawed milk. Always use a new disposable pasteur pipette for each sample to avoid contaminations and false readings.

## 8. Sensitivity

- Limit of detection (LOD): 0.6% cow's milk in sheep's
- Limit of quantification (LOQ): 1.0% cow's milk in sheep's milk

## 9. Method procedure

1. Open as many foils with cassettes as the number of milk samples to be tested.
2. Shake the milk samples vigorously by hand or vortex.

**Note:** *The milk sample for analysis should be fresh and without signs of denaturation.*

3. Add one drop of milk into the pre-diluted Sample Diluent tube, using a disposable plastic pipette and vortex gently.

**Note:** *Alternatively, place a new tip on the single channel micropipette and transfer 20 $\mu$ L of milk into the pre-diluted*

*Sample Diluent tube and vortex gently.*

4. Close the Sample Diluent tube with the dropper tip. Add 3 drops in the circular window of the cassette.

**Note:** *Alternatively, place a new tip on the single channel micropipette and transfer 100 $\mu$ L dropwise in the circular window of the cassette.*

4. Wait 5 minutes.
5. When the 5 minutes are over, place the cassette inside the plastic holder and press SCAN using the S-Flow software. The cassette must be facing up.
6. Use S-Flow software to quantify results as soon as possible and no later than 1 minute after the end of analysis. The software will use a Lot specific curve to calculate the results as % cow's milk. The range of quantification is between 1% and 25% adulteration of cow's milk in sheep's or goat's milk.

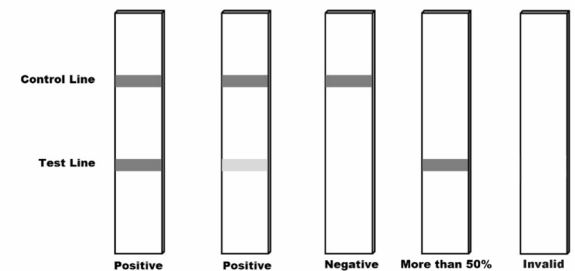
## 10. Visual Interpretation

When the analysis is completed (5 min), the cassette can also be visually read and interpreted according to the following table and index.

**Result interpretation table**

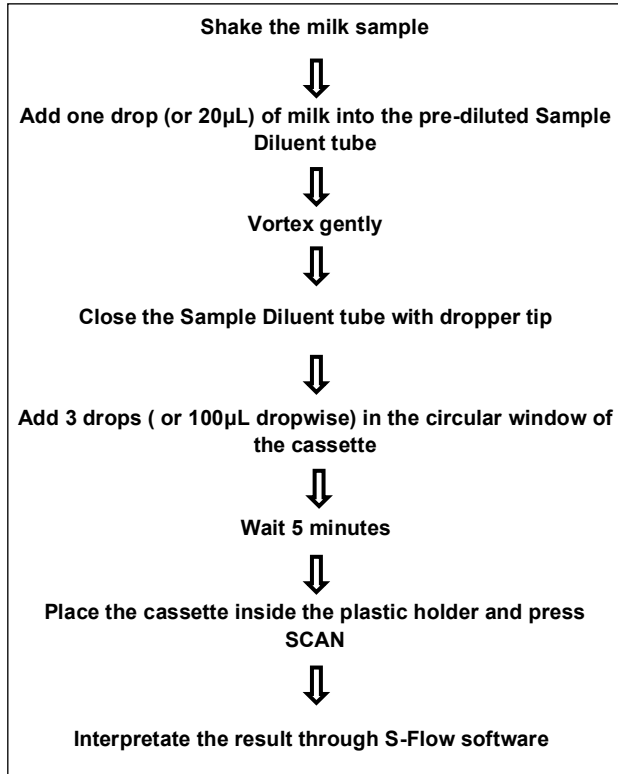
Control line & Test line	Positive result : Cow's milk detected
Control Line & Weak Test line	Positive result : Cow's milk detected
Control line only	Negative result : No Cow's milk detected
Test line only	Positive result : Cow's milk detected more than 50%
No lines	Invalid

**Visual result interpretation index**



## 11. Method summary

Total method time: 5 minutes.



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- Storage: 4 - 25°C

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.

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