



RAPID TEST BUFFALO

QUANTITATIVE

Lateral Flow Test Kit

for the determination of cow's milk in buffalo 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 Buffalo, Q1530/Q1560, is a lateral flow test for the determination of cow's milk in buffalo milk. This kit contains all reagents required for 30 or 60 reactions.

- Test time: 5 min
- Range: 0.1 - 2%
- Limit of detection (LOD): 0.05% cow's milk in buffalo milk
- Limit of quantification (LOQ): 0.1% cow's milk in buffalo milk
- Shelf life: 12 months
- Storage: 4 - 25°C

1. Description

The Rapid Test Buffalo is a lateral flow test for the quantitative determination of cow's milk in buffalo's milk.

2. General information

Buffalo milk is valued for its unique properties and is particularly important in dairy industries especially in the production of cheese. However, due to its higher market value, adulteration with cow's milk has become a concerning issue. This adulteration not only compromises the authenticity and quality of the final products but also raises significant concerns regarding food safety and consumer trust. Therefore the use of diagnostic test that will help reduce such instances of adulteration is considered necessary. This lateral flow test is specifically designed to detect the presence of cow's milk in buffalo's milk by identifying bovine Kappa-Casein β .

3. Principle of the method

The Rapid Test Buffalo is a quantitative lateral flow test based on the competitive format immunoassay principle. A capture line for κ -Casein β (test) is placed below the control line. The detection system consists of specific antibodies against κ -Casein β , conjugated with gold nanoparticles. During testing, the milk sample flows through the membrane carrying along the detection system. If the sample is free of κ -Casein β , color development occurs at the test line, indicating the absence of cow's milk in buffalo's milk. Conversely, the presence of κ -Casein β in the sample will cause a reduced colored signal of the test line. The intensity of test line color is indirectly proportional to the concentration of κ -Casein β present in the samples. S-Flow software can be utilized to quantify κ -Casein β , with results expressed as a percentage (%) of cow's milk. A valid test should always have the upper control line red.

4. Reagents provided

The Rapid Test Buffalo kit contains sufficient reagents and materials for 30/60 measurements.

- 30/60 tests (cassette format) in foils
- Instruction manual
- 30/60 Disposable plastic pasteur pipettes

5. Materials required but not provided

- Clock or timer
- 100 μ L 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 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.

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.

8. Sensitivity

- ◆ Limit of detection (LOD): 0.05% cow's milk in buffalo's milk
- ◆ Limit of quantification (LOQ): 0.1% cow's milk in buffalo's milk.

9. Method procedure

1. Before opening the reagents, take the kit out of the refrigerator (for at least half an hour) and wait until the temperature of the reagents reaches the ambient temperature.
2. Open as many foils with cassettes as the number of milk samples to be tested.
3. Shake the milk samples vigorously by hand or vortex.
4. Place a new tip on the single channel micropipette and transfer 100 μ L of the sample in the circular window of the cassette.

Note: Alternatively, use a disposable pasteur pipette and add 3 drops of the sample in the cassette.

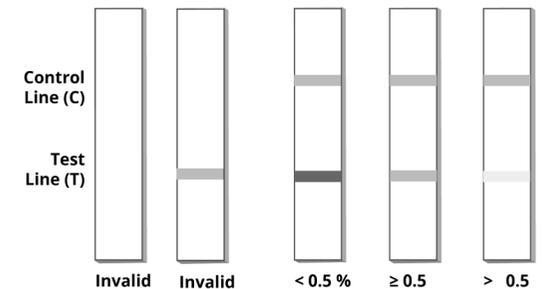
5. Wait 5 minutes.
6. When the 5 minutes are over, place the cassette inside the plastic holder and press SCAN using the S-Flow software. The cassette must be facing up.

7. 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.
8. The range of quantification is between 0.1% and 2% adulteration of cow's milk in buffalo's 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.

10. Visual Interpretation

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

Visual result interpretation index



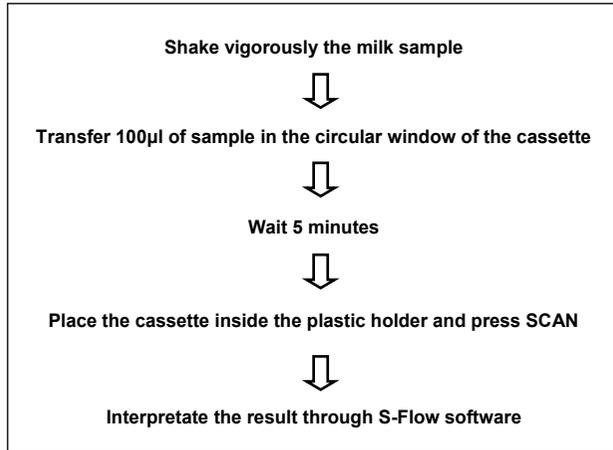
1. The control line should always be visible, if not the test is invalid.
2. When the control line can be seen, compare the intensity of the test line with the intensity of the control line:
 - i. If the test line is darker than the control line ($T > C$), the sample contains cow's milk lower than 0.5%.
 - ii. If the test line is the same with the control line ($T = C$), the sample contains cow's milk $\geq 0.5\%$.
 - iii. If the test line is lighter than the control line ($T < C$), the sample contains cow's milk higher than 0.5%.

11. Interferences

There was no cross-reactivity with alpha-, beta- or kappa casein A.

12. Method summary

Total method time: 5 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.

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Q1530-Q1560 Manual_Rapid Test_Buffalo_v3_en



LATERAL FLOW TEST KIT

for the determination of cow's milk in buffalo milk

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