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A. Uses

What can this test be used for?

This test is used for the screening of cows for sub-clinical ketosis.

- Monitoring *fresh cows*
- Checking *herd level* nutritional status

Note: For best results, do not check cows for BHB level right after they have eaten. Sample cows as they are coming into the feeding stalls.

Can I use the PortaBHB® milk ketone test to assay dairy goat and sheep samples?

No. The PortaBHB® milk ketone test has not been field tested in these animals.

B. The Test Principle & Relation to Other Methods

How does the PortaBHB® milk ketone test work?

The PortaBHB® milk ketone test is based on a chemical reaction between an enzyme on the test strip and a ketone called beta-hydroxybutyrate (BHB) found in the milk. This reaction makes the test strip sample area change to a purple color. The darker the purple color, the higher the BHB level.

How does the PortaBHB® milk ketone test differ from reference lab testing?

Lab instruments use a technique that measures the level of BHB in blood serum or plasma.

How does the PortaBHB® milk ketone test compare to lab data?

The correlation between BHB values in milk and in blood is low ($r=0.66$). Therefore, in comparing the various tests on the market, investigators look at sensitivity and specificity around certain cut off values, instead of a direct correlation.

B. The Test Principle & Relation to Other Methods – continued

Compared to a threshold of $\geq 1.4 \mu\text{mol/L}$ in blood, the PortaBHB[®] milk ketone test shows the following sensitivity/specificity:

	PortaBHB [®] Milk Ketone Test Threshold	
	$\geq 100 \mu\text{mol/L}$	$\geq 200 \mu\text{mol/L}$
Sensitivity*	89.2	40.3
Specificity*	79.6	99.5

* Data based on a study of 577 cows at the University of Montreal.

What cut off values should be used?

Researchers at the University of Montreal suggested using a threshold of:

- 100 $\mu\text{mol/L}$ for herd level management of hyperketonemia
- 200 $\mu\text{mol/L}$ for detection of sub-clinical ketosis in individual cows, because of the excellent specificity.

C. Kit Storage

How do I store the kit?

Store the test kit at $2^{\circ}\text{C} - 25^{\circ}\text{C}$ ($36^{\circ}\text{F} - 77^{\circ}\text{F}$). Use by the *Best if Used by* date on the back of the vial. If the expected storage area is normally above 25°C (77°F), refrigeration is recommended in order to maintain the *Best if Used by* dating. Keep the strip vial tightly closed. Test strips are moisture sensitive.

What is the shelf life of the product?

Product shelf life is two (2) years from the date of manufacture if stored at the recommended storage temperature range (*Best if Used by date* label may be found on the vial).

D. Conditions for Running the Test

At what temperature should I test the samples?

We recommend testing the milk samples at a place where the temperature is between 8°C and 35°C ($65^{\circ}\text{F} - 95^{\circ}\text{F}$).

Can the test be done outside?

Yes.

Can I squirt milk directly onto the test strip?

Yes. Shake off excess of milk, wait one (1) minute and read results.

E. Milk Samples

How fresh must the milk be?	The milk should be tested within 24 hours of sampling.
Will the temperature of the milk affect the test?	If the milk is refrigerated, allow it to warm to room temperature before testing.
Should I mix the milk sample before testing?	Yes. It is recommended that the milk sample be mixed before testing.
Can samples with preservatives be tested?	If the preservative contains a colored dye, it may change the color of the test strip and affect the results.
Can samples with antibiotics be tested?	Yes. Antibiotics will not interfere with the test.
Do hormones interfere with the test?	No. Hormones in the milk do not have an impact on BHB test results.

F. Test Strips

Where are the <i>Lot Number</i> and <i>Best if Used by</i> dates for the kit?	The <i>Lot Number</i> and <i>Best if Used by</i> dates are printed on a label on the test strip vial.
What if the test strip is dropped/disturbed during color development?	If the test strip does not pick up dirt or water, it should be fine.
What if the test strip was exposed to direct sunlight or high humidity? What if I left the vial in the sun or inside of a hot vehicle?	If the test strips appear pink or purple, discard.

G. Other

What if my question is not here, or I need additional information?	Please check our web site at www.portacheck.com . You may also contact us by e-mail at info@portacheck.com or by using the toll-free number 866.500.7722 (US only) . For other areas, please call 856.231.8894 .
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