Cortisol
VET test kit

For veterinary use only!
Intended use:
Veterinary test kit for quantitative in vitro determination of cortisol in serum on a Micro-Cube analyser

MicroVet Diagnostics
11210 Asheville Hwy Suite 1
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Order information	Indication	Kit size
Order number: C50290	Cortisol VET test kit	16 tests
Order number: C50291	Cortisol VET test kit	6 tests
Order number: C52900	Cortisol VET control kit	1 x 0.5 ml (decision level)

Test kit preparation: AFTER preparing the reagent, allow single test at least 10 minutes to warm up to room temperature (20 – 25 °C) by placing the test into the test kit rack. Put test kit package back into refrigerator.

Summary
Cortisol is a hormone known as a glucocorticoid that affects the metabolism of carbohydrates, proteins, and fats, but especially glucose. Pituitary dependent hypercortisolism, more commonly known as Cushing's disease, is caused by a pituitary tumour (non-cancerous) that triggers excessive levels of the stress hormone cortisol. When functioning normally, the pituitary, a pea-sized gland at the base of the brain, produces adrenocorticotropic hormone, or ACTH, which stimulates the adrenal glands near the kidneys to produce cortisol. A small percentage of dogs with Cushing's disease have a tumour of one of the adrenal glands which may or may not be cancerous. This form of Cushing's is called adrenal dependent Cushing's and results from a direct increase in cortisol production by the adrenal gland tumour. The overproduction of cortisol causes symptoms such as hair loss, pot-bellied appearance, increased appetite, and increased drinking and urination called polydipsia and polyuria. Addison's disease (underproduction of cortisol) occurs less commonly than the Cushing's disease in dogs.

Method
Homogeneous, immunoturbidimetric test

Measurement Range
0.8 – 24 µg/dl

Sample Material
Use 40 µl of serum

Test Kit
ERS cuvette filled with buffer reagent
ERS cap filled with antibody reagent
Bottle filled with dilution buffer

Stability and Storage
Stable until the expiration date stated on the label when stored in unopened vacuum package at 2 – 8 °C. Opening the vacuum package may limit the reagent stability to 3 months (stored at 2 – 8 °C) from the date of opening. DO NOT FREEZE!

Warnings and Precautions
DO NOT INGEST! Avoid contact with skin and eyes. Observe all necessary precautions for the use of laboratory reagents.

Waste Management
Please refer to local legal requirements.

Interferences
The test system has been analysed for various interferences. Criterion was the recovery within 15% of initial values.

Haemoglobin	131 mg/dl
Albumin	12 g/dl
Bilirubin, conjugated	36 mg/dl
Bilirubin, unconjugated	36 mg/dl
Cholesterol	620 mg/dl
Rheumatoid factor	540 IU/ml
Triglycerides	835 mg/dl
Uric acid	30 mg/dl

Precision
Reproducibility within-run:
Control; N = 20; mean = 5.7 µg/dl; CV = 6.93%

Correlation
Sample correlation: N = 47

y (MVD cortisol) = 0.9168x (Roche Elecsys) - 0.2049; R^2 = 0.9624;

Quality Control
For internal quality control the MVD Cortisol VET control kit is recommended.
Order number: C52900

Reference Ranges
It is recommended that each laboratory establishes its own reference ranges.

I. ACTH Stimulation Test

Pre-ACTH	Post-ACTH	Interpretation
< 2 µg/dl	< 2 µg/dl	Consistent with hypoadrenocorticism
	2 – 6 µg/dl	Inconclusive
2 – 6 µg/dl	6 – 18 µg/dl	Normal
	18 – 22 µg/dl	Equivocal, Cushing's syndrome possible
> 22 µg/dl	> 22 µg/dl	Consistent with Cushing's syndrome

II. Low-dose Dexamethasone Suppression Test

4-hour cortisol level	8-hour cortisol level	Interpretation
< 1 µg/dl	< 1 µg/dl	Normal
1 – 1.5 µg/dl	1 – 1.5 µg/dl	Inconclusive
> 1.5 µg/dl and > 50% of baseline	> 1.5 µg/dl and > 50% of baseline	Consistent with Cushing's syndrome
< 1.5 µg/dl or < 50% of baseline	> 1.5 µg/dl and > 50% of baseline	Consistent with PDH
> 1.5 µg/dl or > 50% of baseline	> 1.5 µg/dl and < 50% of baseline	Consistent with PDH

III. High-dose Dexamethasone Suppression Test

4-hour cortisol level	8-hour cortisol level	Interpretation
< 1.5 µg/dl or < 50% of baseline	> 1.5 µg/dl and > 50% of baseline	Consistent with PDH
> 1.5 µg/dl and > 50% of baseline	< 1.5 µg/dl or < 50% of baseline	Consistent with PDH
< 1.5 µg/dl or < 50% of baseline	< 1.5 µg/dl or < 50% of baseline	Consistent with PDH
> 1.5 µg/dl and > 50% of baseline	> 1.5 µg/dl and > 50% of baseline	Consistent with PDH or ATH

IV. Post ACTH Stimulation Mitotane (Lysodren®) Dosing and Monitoring

Loading Dose	Interpretation	Maintenance Dose	Interpretation
< 1 µg/dl	Discontinue mitotane	< 1 µg/dl	Discontinue mitotane
1 – 5 µg/dl	Begin maintenance mitotane dosing	1 – 5 µg/dl	Maintain current dosage
> 5 µg/dl	Continue mitotane loading dose	> 5 µg/dl	Increase weekly dose or repeat loading dose.

Note: 1 µg/dl = 27.6 nmol/l

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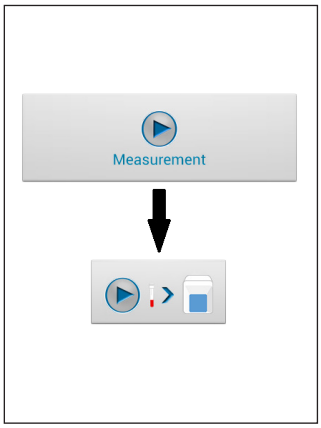
Processing of a Cortisol VET test

1.

1.1



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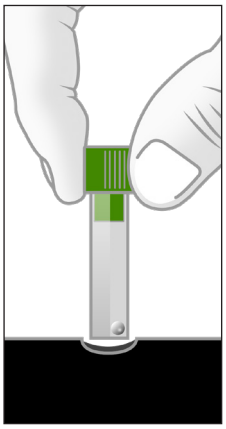

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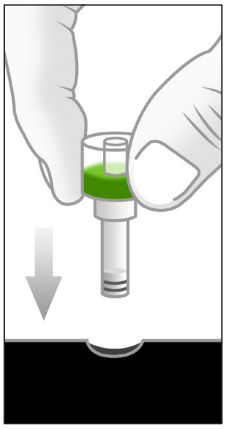

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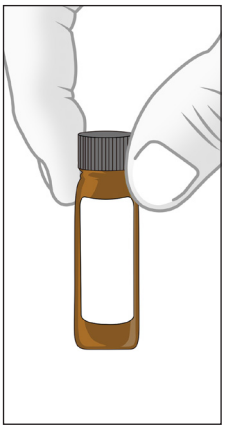

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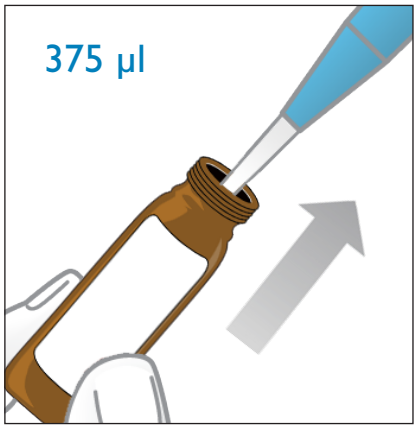

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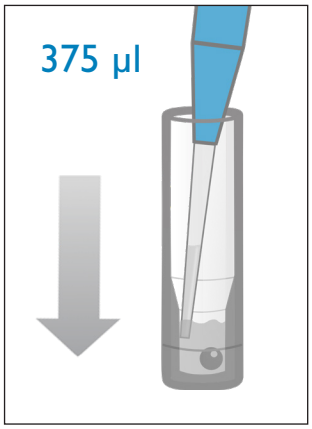

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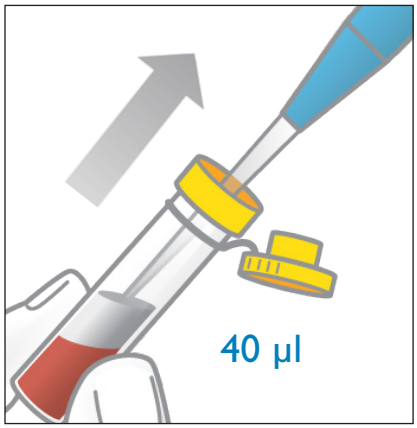

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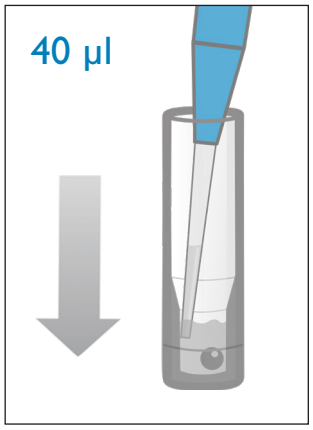

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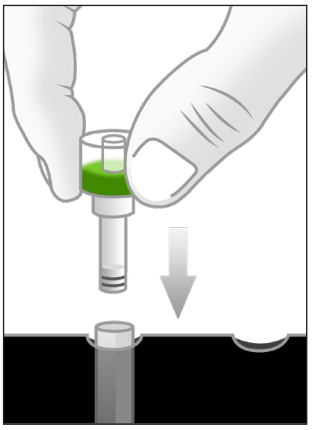

3.2

3.3

3.4

ATTENTION!

AFTER preparing the reagent, allow single test at least 10 minutes to warm up to room temperature (20 – 25 °C) before use!

1. Preparation of test system

1.1 Place RFID card

1.2 Press „Measurement“ button, enter required information using the touchscreen

1.3 Place R1 cuvette in test kit rack

1.4 Place R2 cap in test kit rack

1.5 Take out bottle containing dilution buffer from the test kit package

2. Reagent and sample preparation

2.1 Aspirate 375 µl from the dilution buffer bottle

2.2 Dispense 375 µl dilution buffer INTO THE LIQUID in the R1 cuvette

Allow single test to warm up to room temperature for at least 10 minutes before measurement!
Put test kit package back into refrigerator

2.3 Aspirate 40 µl sample material from centrifuged sample tube

3. Sample processing

3.1 Dispense sample INTO THE LIQUID in the R1 cuvette

3.2 Apply R2 cap firmly onto ERS cuvette

3.3 Place assembled cartridge into laboratory photometer

3.4 Start automatic sample processing by closing the door of the Micro-Cube laboratory photometer.