

FOR VETERINARY USE ONLY

Vcheck M Ver.4

State-of-the-art POC Molecular Diagnostic System



BIONOTE



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State-of-the-art POC Molecular Diagnostic System

Vcheck M is a molecular diagnostic analyzer capable of both nucleic acid extraction and amplification automatically.

Vcheck M makes it possible for veterinarians to confirm infectious diseases at the point-of-care and enable fast and effective treatment.



Vcheck M10 Console

SIMPLE & EASY CONTROLLER AND ACCURATE DATA MANAGER



Seamless connectivity (LIS/HIS)



Accurate data analysis algorithm



User friendly interface with animated guide



Specification

Model	: Vcheck M10 Console
Test Capacity	: Up to 8 modules per console
Power	: AC100~240V, 50/60 Hz
Display	: 10.1" color touch screen
Memory	: 5,000 results (Ct values & amplification curves)
Barcode Scanner	: Built-in
Connectivity	: HL7 PCD-01 profile support
Dimension	: 17 * 23 * 39 cm
Weight	: 2 Kg

Ordering Information

Product No.	Product Name	Operating Condition	Packing Unit
VCM752EA	Vcheck M10 Console	10 ~ 40 °C	1 EA

Vcheck M10 Module

RANDOMLY ACCESSIBLE ANALYZER



Minimum maintenance requirements



Easy connection between Modules



Automated nucleic acid extraction & amplification



Not
Connected



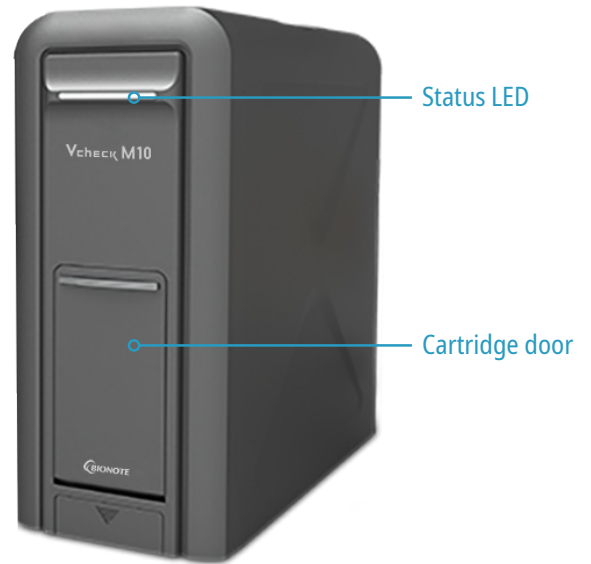
Connecting



Connection
Completed



Running



Status LED

Cartridge door

Specification

Model	: Vcheck M10 Module
Test Capacity	: 1 test at a time
Power	: AC100~240V, 50/60 Hz
Extraction	: Silica technology
Test Method	: Real-time PCR, LAMP
Thermo Module	: Peltier module
Optic Module	: 3 channels (FMA, HEX, Cy5)
Dimension	: 14 * 32 * 33 cm
Weight	: 7 Kg

Ordering Information

Product No.	Product Name	Operating Condition	Packing Unit
VCM753EA	Vcheck M10 Module	10 ~ 40 °C	1 EA

Vcheck M10 Analyzer

Fast Results

Sample in → Result out
in about 1 hour

Multiplex

Maximum 12 targets
in a cartridge

Various Setting

Applicable for various species,
sample types, pathogens



Simple Procedure

Automated extraction,
amplification,
and data analysis

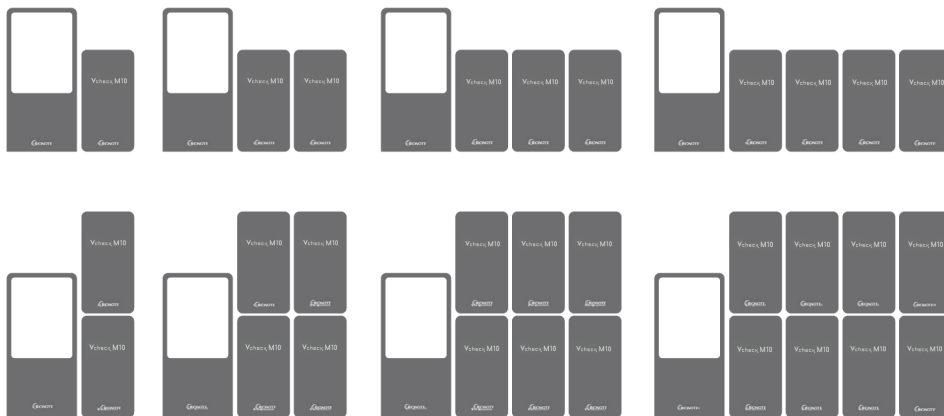
Good Accuracy

High sensitivity
and specificity

Modular & Scalable

Scalable configuration with
up to 8 modules

**Vcheck M10 can be used anywhere diagnostics are needed,
from vet clinics to specialized laboratories**



Vet clinic



Laboratory

Easy 4-Step Test Procedure

1 Scan the sample ID



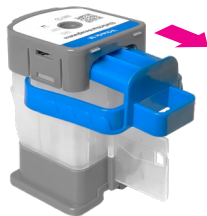
2 Scan the cartridge barcode



3 Apply the sample & close the cartridge



4 Insert the cartridge



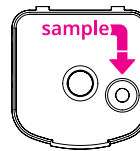
Remove the safety clip



Press down the lid



Dispense the sample



Close the lid

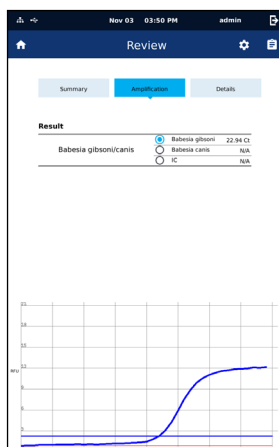
Automatic Result Reading

- No need to set threshold or read result according to cut-off
- Ct value and amplification curve can be checked

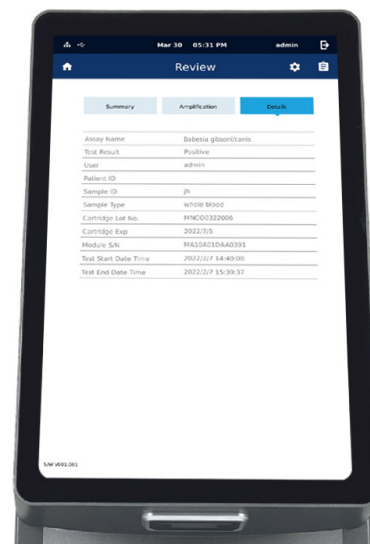
Summary



Amplification



Details



Vcheck M

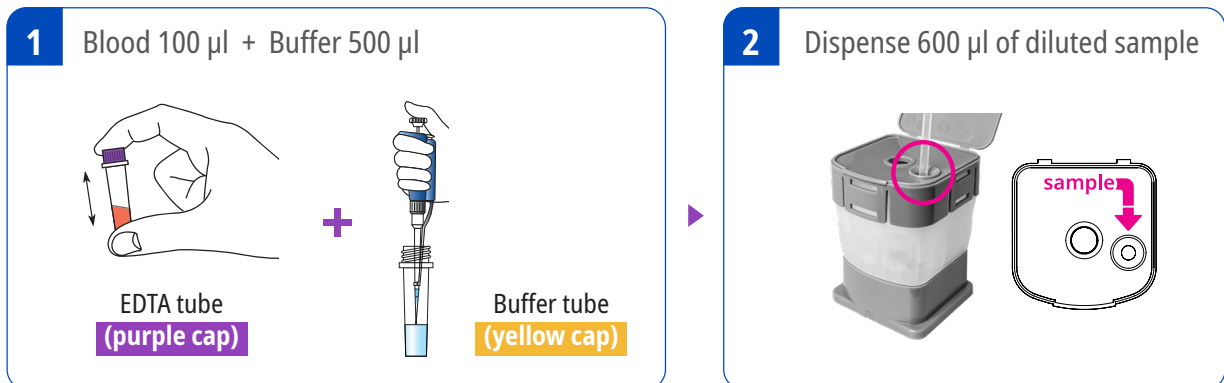
Babesia gibsoni/canis

Specification



Detection Target	: <i>Babesia gibsoni</i> <i>Babesia canis</i> (<i>B. canis canis</i> , <i>B. canis vogeli</i> , <i>B. canis rossii</i>)
Species	: Canine
Sample Type	: Whole blood (EDTA) 100 µl
Testing Time	: 60 minutes
Shelf Life	: 12 months

Test Procedure



Performance

Country	Site	Comparison test	<i>B. gibsoni</i>		<i>B. canis</i>	
			Sens.	Spec.	Sens.	Spec.
Korea	Commercial lab	Real-time PCR, Sequencing	100%	100%	100%	100%
Korea	University lab	Conventional PCR, Real-time PCR	100%	100%	-	100%
Poland	University lab	Nested PCR, Sequencing	100%	100%	100%	100%
Brazil	Commercial lab	Real-time PCR	-	100%	-	100%

Ordering Information

Product No.	Product Name	Operating Condition	Packing Unit
VCM102AC	Vcheck M Babesia gibsoni/canis	2 ~ 28 °C	5 Tests/Kit

Vcheck M

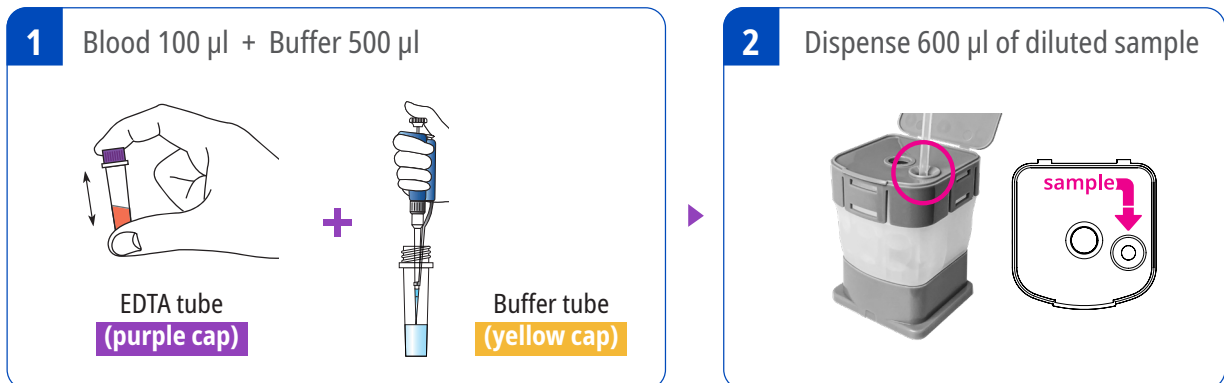
Ehrlichia/Anaplasma

Specification



Detection Target	: ① <i>Ehrlichia</i> spp. (<i>E. canis</i> , <i>E. ewingii</i>) ② <i>Anaplasma</i> spp. (<i>A. phagocytophilum</i> , <i>A. platys</i>)
Species	: Canine, Feline
Sample Type	: Whole blood (EDTA) 100 µl
Testing Time	: 70 minutes
Shelf Life	: 12 months

Test Procedure



Performance

Country	Site	Comparison test	<i>Ehrlichia</i> spp.		<i>Anaplasma</i> spp.	
			Sens.	Spec.	Sens.	Spec.
Korea	R&D department	Real-time PCR, Sequencing	100%	100%	100%	100%
Korea	University lab	Conventional PCR	-	100%	-	100%
Poland	University lab	Nested PCR	-	100%	100%	100%
Brazil	Commercial lab	Real-time PCR	100%	100%	100%	100%

Ordering Information

Product No.	Product Name	Operating Condition	Packing Unit
VCM101AC	Vcheck M Ehrlichia/Anaplasma	2 ~ 28 °C	5 Tests/Kit

Vcheck M

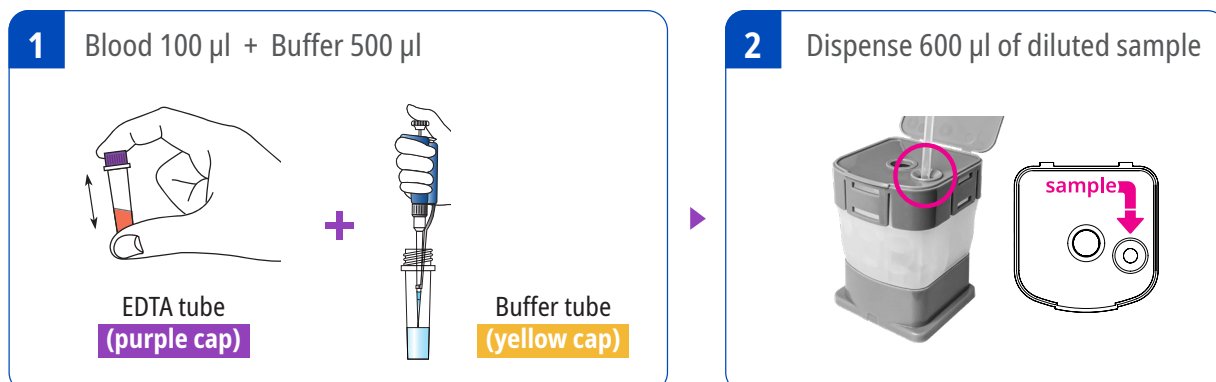
Canine Vector 8 Panel

Specification



Detection Target	: ① <i>Ehrlichia</i> spp. (<i>E. canis</i> , <i>E. ewingii</i> , <i>E. chaffeensis</i>) ② <i>Hepatozoon</i> spp. (<i>H. americanum</i> , <i>H. canis</i>) ③ Canine hemotropic mycoplasma (<i>M. haemocanis</i>) ④ <i>Anaplasma</i> spp. (<i>A. phagocytophilum</i> , <i>A. platys</i>) ⑤ <i>Rickettsia rickettsii</i> ⑥ <i>Babesia</i> spp. (<i>B. gibsoni</i> , <i>B. canis canis</i> , <i>B. canis vogeli</i> , <i>B. canis rossii</i>) ⑦ <i>Leishmania</i> spp. (<i>L. infantum</i> , <i>L. donovani</i> , <i>L. mexicana</i>) ⑧ <i>Bartonella</i> spp. (<i>B. henselae</i> , <i>B. koehlerae</i>)
Species	: Canine
Sample Type	: Whole blood (EDTA) 100 µl
Testing Time	: 70 minutes
Shelf Life	: 12 months

Test Procedure



Performance

Clinical performance¹

	<i>Ehrlichia</i>	<i>Hepatozoon</i>	<i>Hemoplasma</i>	<i>Anaplasma</i>	<i>Rickettsia</i>	<i>Babesia</i>	<i>Leishmania</i>	<i>Bartonella</i>
Sensitivity	100%	100%	100%	100%	-	100%	-	-
Specificity	100%	-	-	100%	-	100%	100%	-

External evaluation²

Excellent performance is proven through SCI paper by yielding highly correlated results with real-time PCR.

	<i>Ehrlichia</i>	<i>Hepatozoon</i>	<i>Hemoplasma</i>	<i>Anaplasma</i>	<i>Rickettsia</i>	<i>Babesia</i>	<i>Leishmania</i>	<i>Bartonella</i>
Accuracy	100% (4/4)	100% (3/3)	100% (15/15)	100% (20/20)	-	100% (29/29)	100% (1/1)	100% (7/7)

1. SD Biosensor

2. J Vet Res. 2024 Jun 20;68(2):215-222.

Ordering Information

Product No.	Product Name	Operating Condition	Packing Unit
VCM104AC	Vcheck M Canine Vector 8 Panel	2 ~ 28 °C	5 Tests/Kit

Vcheck M

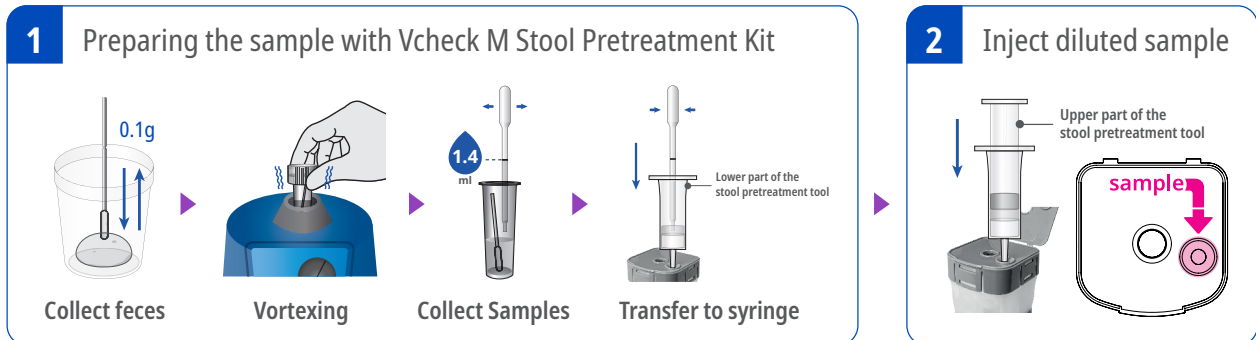
Canine Diarrhea 8 Panel

Specification



Detection Target	: ① Canine parvovirus type 2 ② Canine coronavirus ③ Canine distempervirus ④ <i>Giardia lamblia</i> ⑤ <i>Cryptosporidium</i> spp. ⑥ <i>Salmonella</i> spp. (<i>S. typhimurium</i> , <i>S. enteritidis</i>) ⑦ <i>Clostridium perfringens</i> (alpha toxin gene, enterotoxin gene, netE/F toxin gene) ⑧ <i>Campylobacter</i> spp. (<i>C. coli</i> , <i>C. jejuni</i>)
Species	: Canine
Sample Type	: Feces 0.1g
Testing Time	: 70 minutes
Shelf Life	: 12 months

Test Procedure



Performance

Analytical sensitivity¹ (Limit of detection, LoD)

	<i>Campylobacter</i> spp.	<i>Salmonella</i> spp.	Canine coronavirus	Canine distempervirus	<i>Cryptosporidium</i> spp.	Canine parvovirus 2	<i>Clostridium perfringens</i>	<i>Giardia lamblia</i>
LoD (copies/mL)	2.7X10 ³	2.7X10 ³	2.7X10 ³	2.7X10 ³	2.7X10 ³	2.7X10 ³	2.7X10 ³	9X10 ²

Clinical evaluation² (Compared to Conventional PCR & Real-time PCR)

	<i>Campylobacter</i> spp.	<i>Salmonella</i> spp.	Canine coronavirus	Canine distempervirus	<i>Cryptosporidium</i> spp.	Canine parvovirus 2	<i>Clostridium perfringens</i>	<i>Giardia lamblia</i>
Sensitivity	100% (4/4)	-	100% (14/14)	-	100% (1/1)	100% (19/19)	100% (58/58)	100% (3/3)
Specificity	100% (87/87)	98.9% (91/92)	100% (80/80)	100% (91/91)	100% (91/91)	100% (78/78)	100% (39/39)	100% (89/89)

1. SD Biosensor, Inc. R&D department
2. Commercial laboratories in Korea

Ordering Information

Product No.	Product Name	Operating Condition	Packing Unit
VCM107AC	Vcheck M Canine Diarrhea 8 Panel	2 ~ 28 °C	5 Tests/Kit
(Included)	Vcheck M Stool Pretreatment Kit	2 ~ 28 °C	5 Tests/Kit

Vcheck M

Feline Diarrhea 8 Panel

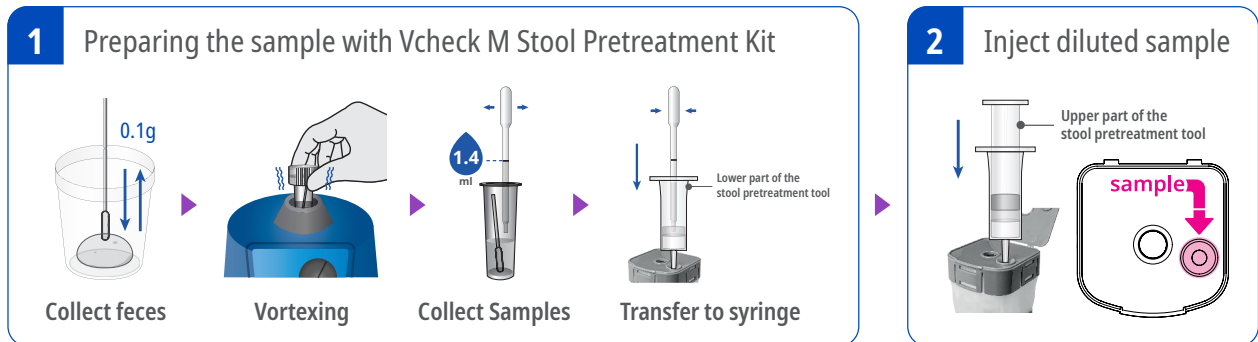
Specification



Detection Target : ① Feline parvovirus
 ② Feline coronavirus
 ③ *Giardia lamblia*
 ④ *Tritrichomonas blagburni* (formerly *T. foetus*)
 ⑤ *Toxoplasma gondii*
 ⑥ *Salmonella* spp. (*S. typhimurium*, *S. enteritidis*)
 ⑦ *Campylobacter* spp. (*C. coli*, *C. jejuni*)
 ⑧ *Cryptosporidium* spp.

Species : Feline
Sample Type : Feces 0.1g
Testing Time : 70 minutes
Shelf Life : 12 months

Test Procedure



Performance

Analytical sensitivity¹ (Limit of detection, LoD)

	<i>Campylobacter</i> spp.	<i>Salmonella</i> spp.	Feline coronavirus	<i>Toxoplasma gondii</i>	<i>Cryptosporidium</i> spp.	Feline parvovirus	<i>Tritrichomonas blagburni</i>	<i>Giardia lamblia</i>
LoD (copies/mL)	2.7X10 ³	2.7X10 ³	9X10 ²	2.7X10 ³	2.7X10 ³	9X10 ²	2.7X10 ³	9X10 ²

Clinical evaluation² (Compared to Conventional PCR & Real-time PCR)

	<i>Campylobacter</i> spp.	<i>Salmonella</i> spp.	Feline coronavirus	<i>Toxoplasma gondii</i>	<i>Cryptosporidium</i> spp.	Feline parvovirus	<i>Tritrichomonas blagburni</i>	<i>Giardia lamblia</i>
Sensitivity	100% (2/2)	-	100% (39/39)	-	-	100% (14/14)	100% (6/6)	100% (6/6)
Specificity	100% (79/79)	100% (81/81)	100% (47/47)	100% (81/81)	100% (81/81)	100% (72/72)	100% (75/75)	100% (77/77)

1. SD Biosensor, Inc. R&D department
 2. Commercial laboratories in Korea

Ordering Information

Product No.	Product Name	Operating Condition	Packing Unit
VCM108AC	Vcheck M Feline Diarrhea 8 Panel	2 ~ 28 °C	5 Tests/Kit
(Included)	Vcheck M Stool Pretreatment Kit	2 ~ 28 °C	5 Tests/Kit

Vcheck M FIV/FeLV

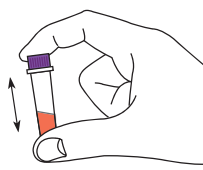
Specification



Detection Target	: Feline immunodeficiency virus Feline leukemia virus
Species	: Feline
Sample Type	: Whole blood (EDTA) 100 µl
Testing Time	: 70 minutes
Shelf Life	: 12 months

Test Procedure

1 Blood 100 µl + Buffer 500 µl



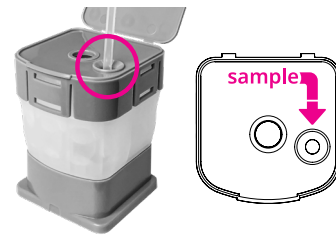
EDTA tube
(purple cap)

+



Buffer tube
(yellow cap)

2 Dispense 600 µl of diluted sample



Performance

Analytical sensitivity (Limit of detection, LoD)

	FIV	FeLV
LOD (copies/ml)	1.4×10^3	1.4×10^3

Ordering Information

Product No.	Product Name	Operating Condition	Packing Unit
VCM109AC	Vcheck M FIV/FeLV	2 ~ 28 °C	5 Tests/Kit

Vcheck M

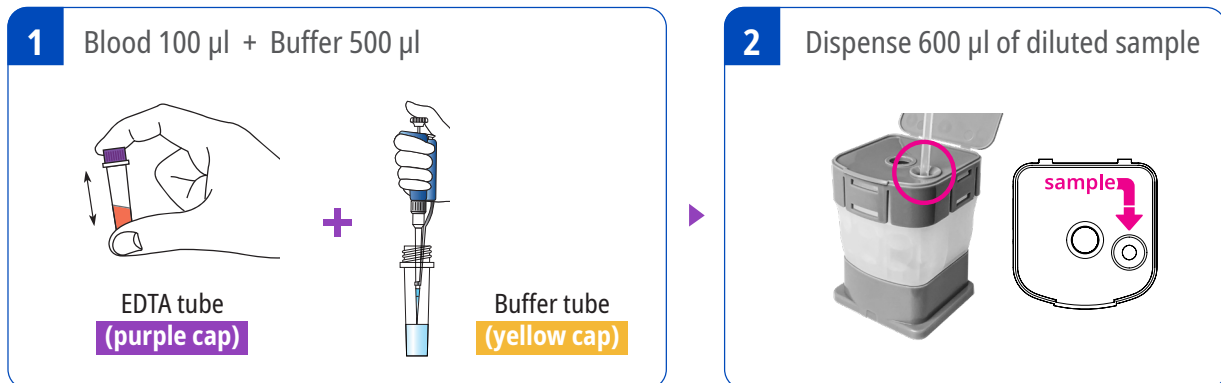
Canine Anemia 8 Panel

Specification



Detection Target	: ① <i>Ehrlichia</i> spp. (<i>E. canis</i> , <i>E. ewingii</i> , <i>E. chaffeensis</i>) ② <i>Hepatozoon</i> spp. (<i>H. americanum</i> , <i>H. canis</i>) ③ Canine hemotropic mycoplasma (<i>M. haemocanis</i>) ④ <i>Anaplasma</i> spp. (<i>A. phagocytophilum</i> , <i>A. platys</i>) ⑤ <i>Rickettsia rickettsii</i> ⑥ <i>Babesia</i> spp. (<i>B. gibsoni</i> , <i>B. canis canis</i> , <i>B. canis vogeli</i> , <i>B. canis rossi</i>) ⑦ <i>Leptospira interrogans</i> (sv. Autumnalis, Grippotyphosa, Bratislava, Pomona, Canicola, Icterohaemorrhagiae) ⑧ <i>Borrelia</i> spp. (<i>B. burgdorferi</i> , <i>B. afzelii</i> , <i>B. garinii</i>)
Species	: Canine
Sample Type	: Whole blood (EDTA) 100 µl
Testing Time	: 70 minutes
Shelf Life	: 12 months

Test Procedure



Performance

Analytical sensitivity (Limit of detection, LoD)

	<i>Ehrlichia</i>	<i>Hepatozoon</i>	Hemoplasma	<i>Anaplasma</i>	<i>Rickettsia</i>	<i>Babesia</i>	<i>Leptospira</i>	<i>Borrelia</i>
LOD (copies/ml)	3×10^3	2.4×10^4	2.4×10^4	1.2×10^4	6×10^3	2.4×10^4	2.4×10^4	1.2×10^4

Clinical performance

	<i>Ehrlichia</i>	<i>Hepatozoon</i>	Hemoplasma	<i>Anaplasma</i>	<i>Rickettsia</i>	<i>Babesia</i>	<i>Leptospira</i>	<i>Borrelia</i>
Sensitivity	100%	100%	100%	100%	-	100%	-	-
Specificity	100%	-	-	100%	-	100%	100%	-

Ordering Information

Product No.	Product Name	Operating Condition	Packing Unit
VCM105AC	Vcheck M Canine Anemia 8 Panel	2 ~ 28 °C	5 Tests/Kit

Vcheck M Feline Anemia 7 Panel

Coming soon

Specification



Detection Target	: ① Feline immunodeficiency virus (FIV) ② Feline leukemia virus (FeLV) ③ <i>Ehrlichia</i> spp. ④ <i>Anaplasma</i> spp. ⑤ <i>Bartonella</i> spp. ⑥ <i>Cytauxzoon felis</i> ⑦ Feline hemotropic mycoplasma (FHM)
Species	: Feline
Sample Type	: Whole blood (EDTA) 100 µl

Vcheck M Canine Respiratory 8 Panel

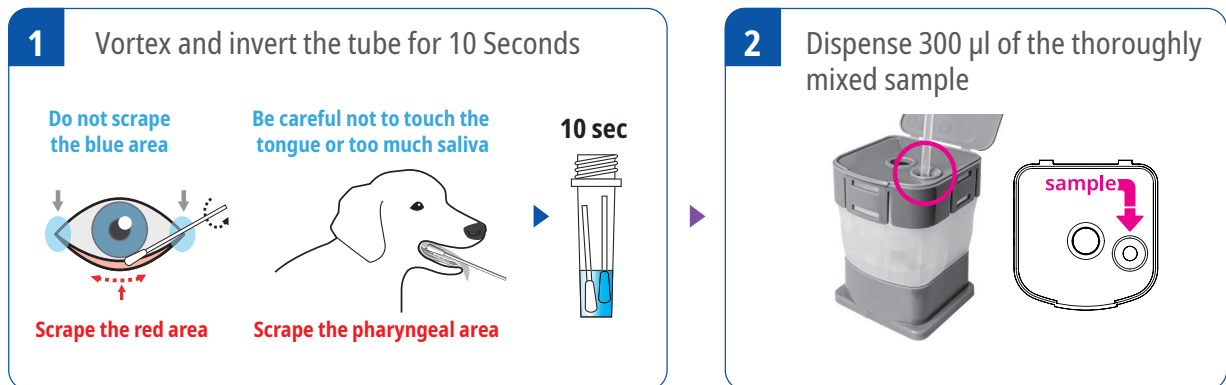
Specification



Detection Target : ① Canine adenovirus type 2
② Canine distemper virus
③ Canine Parainfluenza virus
④ Canine Respiratory coronavirus
⑤ *Mycoplasma cynos*
⑥ Canine Influenza virus
⑦ *Bordetella bronchiseptica*
⑧ Canine herpesvirus type 1

Species : Canine
Sample Type : Conjunctival swab and Deep pharyngeal swab
Testing Time : 70 minutes
Shelf Life : 12 months

Test Procedure



Performance

Analytical sensitivity (Limit of detection, LoD)

	CAV-2	CDV	CPIV	CRCoV	M.cynos	CIV	B.bronchiseptica	CHV-1
LOD (copies/ml)	0.02 TCID50/mL	49.52 TCID50/mL	92.79 TCID50/mL	800 copies/mL	0.37 CFU/mL	0.03 TCID50/ml	145.83 CFU/mL	94800 TCID50/ml

Ordering Information

Product No.	Product Name	Operating Condition	Packing Unit
VCM110AC	Vcheck M Canine Respiratory 8 Panel	2 ~ 28 °C	5 Tests/Kit

Vcheck M

Feline Respiratory 7 Panel

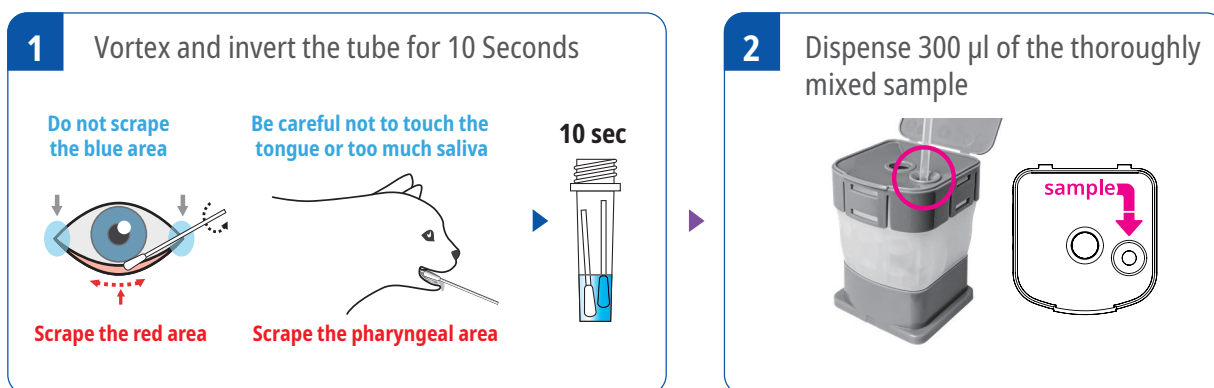
Specification



Detection Target : ① Feline herpesvirus type 1
 ② Feline calicivirus
 ③ Influenza virus
 ④ *Bordetella bronchiseptica*
 ⑤ *Mycoplasma felis*
 ⑥ *Chlamydophila felis*
 ⑦ *Streptococcus zooepidemicus*

Species : Feline
Sample Type : Conjunctival swab and Deep pharyngeal swab
Testing Time : 70 minutes
Shelf Life : 12 months

Test Procedure



Performance

Analytical sensitivity (Limit of detection, LoD)

	FHV-1	FCV	Influenza virus	<i>B. bronchiseptica</i>	<i>M. felis</i>	<i>C. felis</i>	SEZ
LOD (copies/ml)	3.3x10 ²	3.3x10 ²	6.7x10 ²	3.3x10 ²	6.7x10 ²	3.3x10 ²	3.3x10 ²

Ordering Information

Product No.	Product Name	Operating Condition	Packing Unit
VCM111AC	Vcheck M Feline Respiratory 7 Panel	2 ~ 28 °C	5 Tests/Kit

Vcheck M

Ordering Information

Analyzer

	Product	Contents	Cat No.
Analyzer	Vcheck M10 Console	M10 Console (Controller)	VCM752EA
	Vcheck M10 Module	M10 Module (Analyzer)	VCM753EA

Cartridge

	Product	Detection Target	Cat No.
	Vcheck M Ehrlichia/Anaplasma	<i>Ehrlichia</i> spp. <i>Anaplasma</i> spp.	VCM101AC
	Vcheck M Babesia gibsoni/canis	<i>Babesia gibsoni</i> <i>Babesia canis</i>	VCM102AC
	Vcheck M Canine Vector 8 Panel	<i>Ehrlichia</i> spp. <i>Hepatozoon</i> spp. Canine hemotropic mycoplasma (CHM) <i>Anaplasma</i> spp. <i>Rickettsia rickettsii</i> <i>Babesia</i> spp. <i>Leishmania</i> spp. <i>Bartonella</i> spp.	VCM104AC
Companion Animal	Vcheck M Canine Anemia 8 Panel	<i>Ehrlichia</i> spp. <i>Hepatozoon</i> spp. Canine hemotropic mycoplasma (CHM) <i>Anaplasma</i> spp. <i>Rickettsia rickettsii</i> <i>Babesia</i> spp. <i>Leptospira interrogans</i> <i>Borrelia</i> spp.	VCM105AC
	Vcheck M FIV/FeLV	Feline immunodeficiency virus (FIV) Feline leukemia virus (FeLV)	VCM109AC
	Vcheck M Canine Diarrhea 8 Panel	Canine parvovirus type 2 (CPV-2) Canine coronavirus (CECoV) Canine distemper virus (CDV) <i>Giardia lamblia</i> <i>Cryptosporidium</i> spp. <i>Salmonella</i> spp. <i>Clostridium perfringens</i> <i>Campylobacter</i> spp.	VCM107AC
	Vcheck M Feline Diarrhea 8 Panel	Feline parvovirus (FPV) Feline coronavirus (FCoV) <i>Giardia lamblia</i> <i>Tritrichomonas blagburni</i> <i>Toxoplasma gondii</i> <i>Salmonella</i> spp. <i>Campylobacter</i> spp. <i>Cryptosporidium</i> spp.	VCM108AC

Cartridge

	Product	Detection Target	Cat No.
Companion Animal	Vcheck M Canine Respiratory 8 Panel	Canine adenovirus type 2 Canine distemper virus Canine Parainfluenza virus Canine Respiratory coronavirus <i>Mycoplasma cynos</i> Canine Influenza virus <i>Bordetella bronchiseptica</i> Canine herpesvirus type 1	VCM110AC
	Vcheck M Feline Respiratory 7 Panel	Feline herpesvirus type 1 Feline calicivirus Influenza virus <i>Bordetella bronchiseptica</i> <i>Mycoplasma felis</i> <i>Chlamydia felis</i> <i>Streptococcus zooepidemicus</i>	VCM111AC

Vcheck M

State-of-the-art POC Molecular Diagnostic System