FOR VETERINARY USE ONLY

VcheckM Ver.4

State-of-the-art POC Molecular Diagnostic System



BIONOTE

CT_VCM_EN

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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

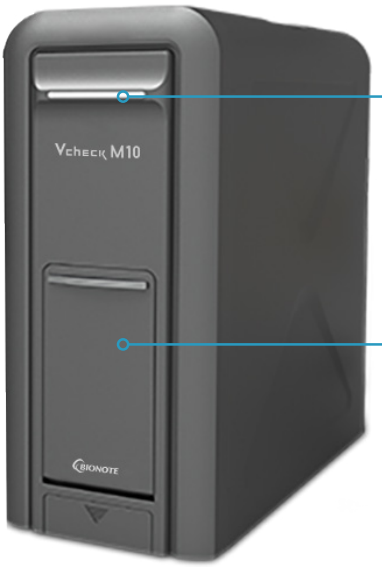
Product No.	Product Name	Operating Condition	Packing Unit
VCM752EA	Vcheck M10 Console	10 ~ 40 °C	1 EA

Vcheck

M10 Module

RANDOMLY ACCESSIBLE ANALYZER

- Minimum maintenance requirements
- Easy connection between Modules
- Automated nucleic acid extraction & amplification





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

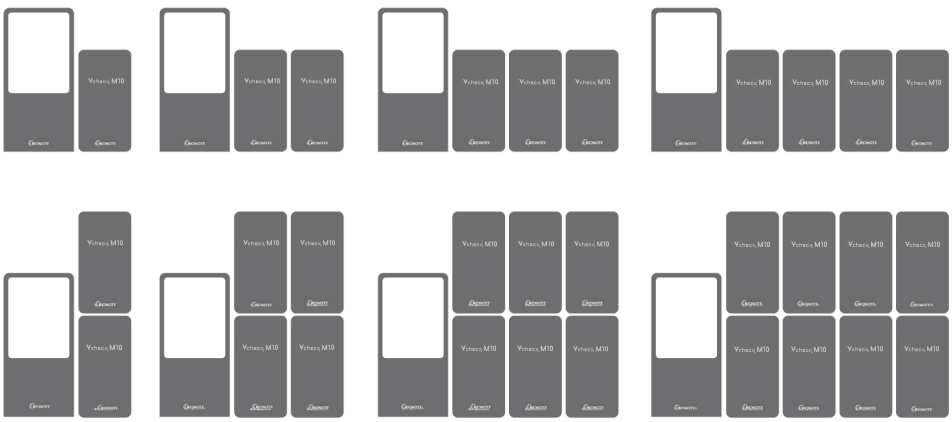


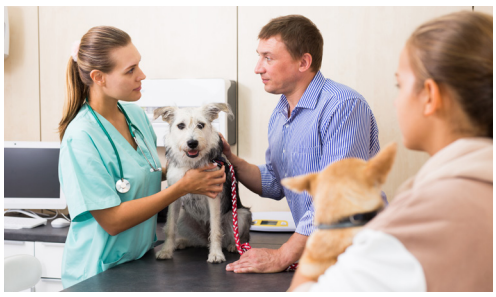
Simple Procedure
Automated extraction,
amplification,
and data analysis

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

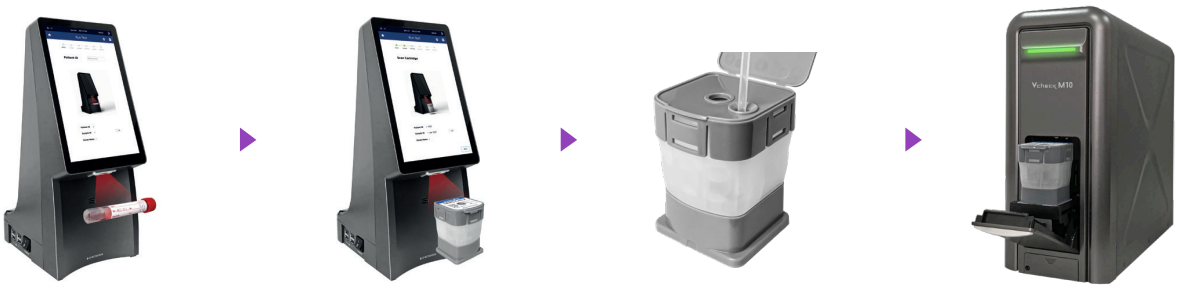
Easy 4-Step Test Procedure

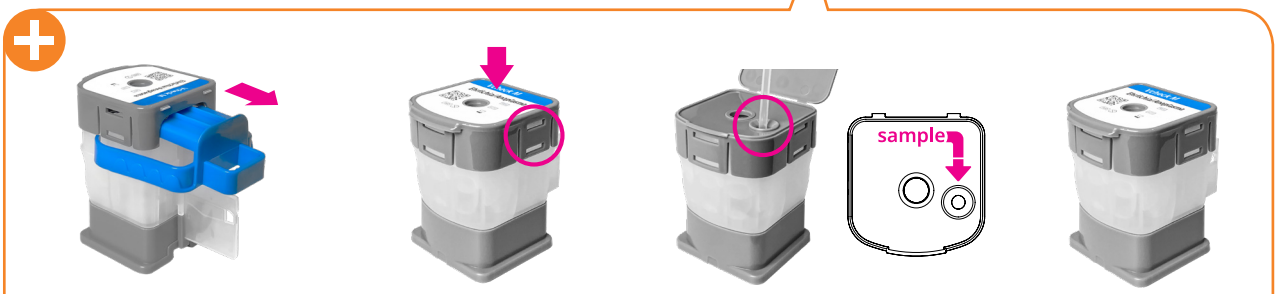
1 Scan the sample ID

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

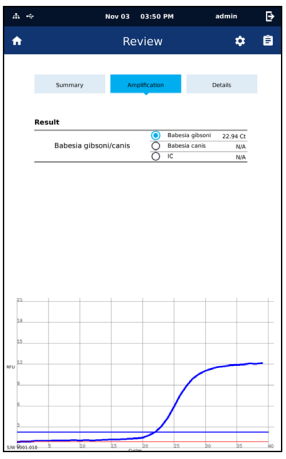
Automatic Result Reading

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

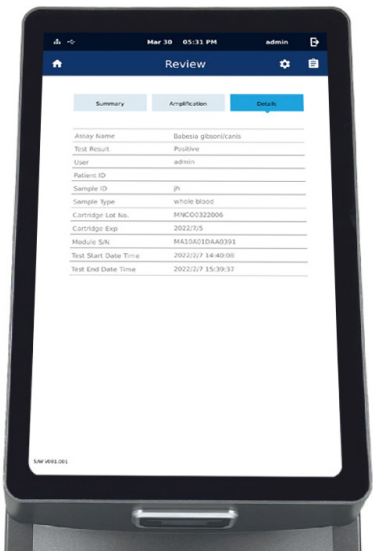
Summary



Amplification



Details



Vcheck M

Babesia gibsoni/canis

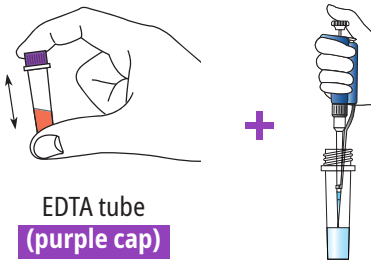
Specification



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

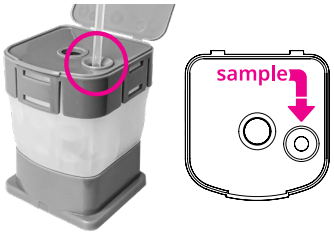
Test Procedure

1 Blood 100 µl + Buffer 500 µl



EDTA tube (purple cap) + Buffer tube (yellow cap)

2 Dispense 600 µl of diluted sample



Performance

Country	Site	Comparison test	*B. gibsoni*		*B. canis*	
			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

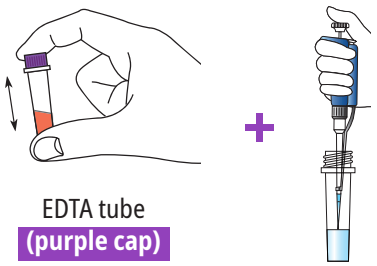
Specification



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

Test Procedure

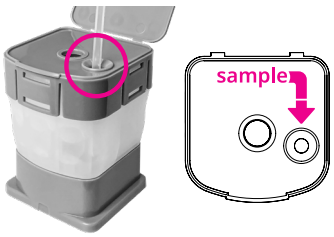
1 Blood 100 µl + Buffer 500 µl



EDTA tube (purple cap)

Buffer tube (yellow cap)

2 Dispense 600 µl of diluted sample



Performance

Country	Site	Comparison test	*Ehrlichia* spp.		*Anaplasma* 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 *Ehrlichia* spp. *(E. canis, E. ewingii, E. chaffeensis)*
② *Hepatozoon* spp. *(H. americanum, H. canis)*
③ Canine hemotropic mycoplasma *(M. haemocanis)*
④ *Anaplasma* spp. *(A. phagocytophilum, A. platys)*
⑤ *Rickettsia rickettsii*
⑥ *Babesia* spp. *(B. gibsoni, B. canis canis, B. canis vogeli, B. canis rossi)*
⑦ *Leishmania* spp. *(L. infantum, L. donovani, L. mexicana)*
⑧ *Bartonella* spp. *(B. henselae, B. koehlerae)*

Species : Canine

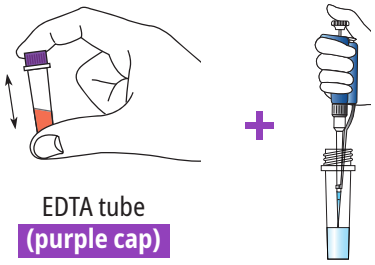
Sample Type : Whole blood (EDTA) 100 µl

Testing Time : 70 minutes

Shelf Life : 12 months

Test Procedure

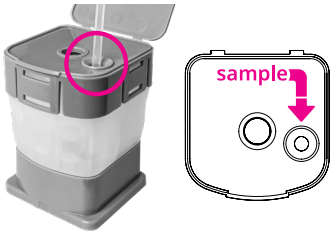
1 Blood 100 µl + Buffer 500 µl



EDTA tube (purple cap)

Buffer tube (yellow cap)

2 Dispense 600 µl of diluted sample



Performance

Clinical performance[1]

	Ehrlichia	*Hepatozoon*	Hemoplasma	*Anaplasma*	*Rickettsia*	*Babesia*	*Leishmania*	*Bartonella*
Sensitivity	100%	100%	100%	100%	-	100%	-	-
Specificity	100%	-	-	100%	-	100%	100%	-

External evaluation[2]

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

	Ehrlichia	*Hepatozoon*	Hemoplasma	*Anaplasma*	*Rickettsia*	*Babesia*	*Leishmania*	*Bartonella*
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 *Giardia lamblia*
⑤ *Cryptosporidium* spp.
⑥ *Salmonella* spp. *(S. typhimurium, S. enteritidis)*
⑦ *Clostridium perfringens*
(alpha toxin gene, enterotoxin gene, netE/F toxin gene)
⑧ *Campylobacter* spp. *(C. coli, C. jejuni)*

Species : Canine

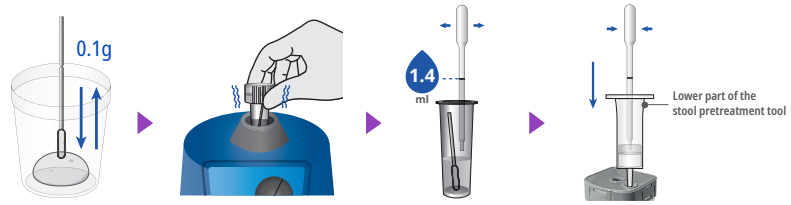
Sample Type : Feces 0.1g

Testing Time : 70 minutes

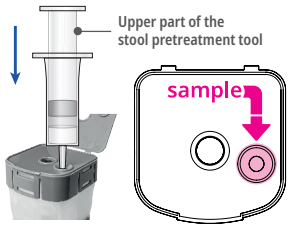
Shelf Life : 12 months

Test Procedure

1 Preparing the sample with Vcheck M Stool Pretreatment Kit



2 Inject diluted sample



Performance

Analytical sensitivity[1] (Limit of detection, LoD)

	Campylobacter spp.	*Salmonella* spp.	Canine coronavirus	Canine distempervirus	*Cryptosporidium* spp.	Canine parvovirus 2	*Clostridium perfringens*	*Giardia lamblia*
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 evaluation[2] (Compared to Conventional PCR & Real-time PCR)

	Campylobacter spp.	*Salmonella* spp.	Canine coronavirus	Canine distempervirus	*Cryptosporidium* spp.	Canine parvovirus 2	*Clostridium perfringens*	*Giardia lamblia*
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

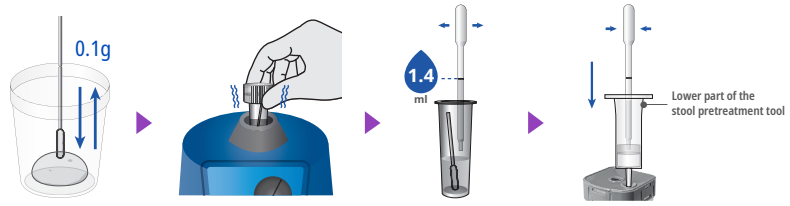
Sample Type : Feces 0.1g

Testing Time : 70 minutes

Shelf Life : 12 months

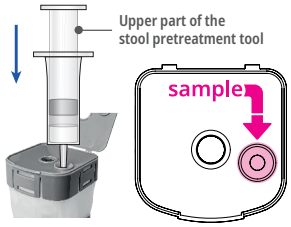
Test Procedure

1 Preparing the sample with Vcheck M Stool Pretreatment Kit



Collect feces → Vortexing → Collect Samples → Transfer to syringe

2 Inject diluted sample



Performance

Analytical sensitivity[1] (Limit of detection, LoD)

	Campylobacter spp.	*Salmonella* spp.	Feline coronavirus	Toxoplasma gondii	*Cryptosporidium* spp.	Feline parvovirus	*Tritrichomonas blagburni*	*Giardia lamblia*
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 evaluation[2] (Compared to Conventional PCR & Real-time PCR)

	Campylobacter spp.	*Salmonella* spp.	Feline coronavirus	*Toxoplasma gondii*	*Cryptosporidium* spp.	Feline parvovirus	*Tritrichomonas blagburni*	*Giardia lamblia*
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

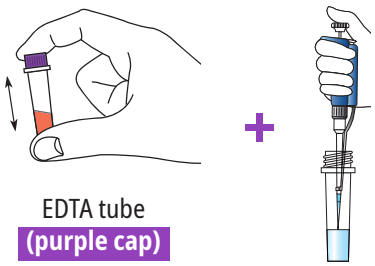
Specification



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

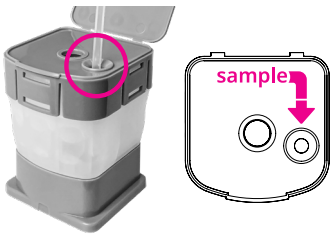
1 Blood 100 µl + Buffer 500 µl



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 x 10^3	1.4 x 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 *Ehrlichia* spp. *(E. canis, E. ewingii, E. chaffeensis)*
② *Hepatozoon* spp. *(H. americanum, H. canis)*
③ Canine hemotropic mycoplasma *(M. haemocanis)*
④ *Anaplasma* spp. *(A. phagocytophilum, A. platys)*
⑤ *Rickettsia rickettsii*
⑥ *Babesia* spp. *(B. gibsoni, B. canis canis, B. canis vogeli, B. canis rossi)*
⑦ *Leptospira interrogans* (sv. Autumnalis, Grippotyphosa, Bratislava, Pomona, Canicola, Icterohaemorrhagiae)
⑧ *Borrelia* spp. *(B. burgdorferi, B. afzelii, B. garinii)*

Species : Canine

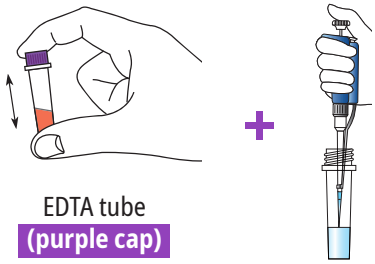
Sample Type : Whole blood (EDTA) 100 µl

Testing Time : 70 minutes

Shelf Life : 12 months

Test Procedure

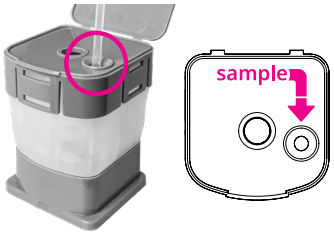
1 Blood 100 µl + Buffer 500 µl



EDTA tube (purple cap)

Buffer tube (yellow cap)

2 Dispense 600 µl of diluted sample



Performance

Analytical sensitivity (Limit of detection, LoD)

	Ehrlichia	*Hepatozoon*	Hemoplasma	*Anaplasma*	*Rickettsia*	*Babesia*	*Leptospira*	*Borrelia*
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

	Ehrlichia	*Hepatozoon*	Hemoplasma	*Anaplasma*	*Rickettsia*	*Babesia*	*Leptospira*	*Borrelia*
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

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

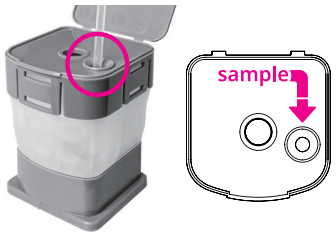
Shelf Life : 12 months

Test Procedure

1 Vortex and invert the tube for 10 Seconds



2 Dispense 300 µl of the thoroughly mixed sample



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 *Chlamydophilia felis*
⑦ *Streptococcus zooepidemicus*

Species : Feline

Sample Type : Conjunctival swab and Deep pharyngeal swab

Testing Time : 70 minutes

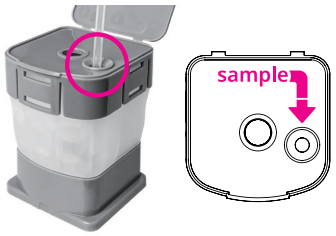
Shelf Life : 12 months

Test Procedure

1 Vortex and invert the tube for 10 Seconds



2 Dispense 300 µl of the thoroughly mixed sample



Performance

Analytical sensitivity (Limit of detection, LoD)

	FHV-1	FCV	Influenza virus	*B. bronchiseptica*	*M. felis*	*C. felis*	*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.
Companion Animal	Vcheck M Ehrlichia/Anaplasma	*Ehrlichia* spp. *Anaplasma* spp.	VCM101AC
	Vcheck M Babesia gibsoni/canis	*Babesia gibsoni* *Babesia canis*	VCM102AC
	Vcheck M Canine Vector 8 Panel	*Ehrlichia* spp. *Hepatozoon* spp. Canine hemotropic mycoplasma (CHM) *Anaplasma* spp. *Rickettsia rikettsii* *Babesia* spp. *Leishmania* spp. *Bartonella* spp.	VCM104AC
	Vcheck M Canine Anemia 8 Panel	*Ehrlichia* spp. *Hepatozoon* spp. Canine hemotropic mycoplasma (CHM) *Anaplasma* spp. *Rickettsia rikettsii* *Babesia* spp. *Leptospira interrogans* *Borrelia* 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 distempervirus (CDV) *Giardia lamblia* *Cryptosporidium* spp. *Salmonella* spp. *Clostridium perfringens* *Campylobacter* spp.	VCM107AC
	Vcheck M Feline Diarrhea 8 Panel	Feline parvovirus (FPV) Feline coronavirus (FCoV) *Giardia lamblia* *Tritrichomonas blagburni* *Toxoplasma gondii* *Salmonella* spp. *Campylobacter* spp. *Cryptosporidium* spp.	VCM108AC

Vcheck M

Ordering Information

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 *Mycoplasma cynos* Canine Influenza virus *Bordetella bronchiseptica* Canine herpesvirus type 1	VCM110AC
	Vcheck M Feline Respiratory 7 Panel	Feline herpesvirus type 1 Feline calicivirus Influenza virus *Bordetella bronchiseptica* *Mycoplasma felis* *Chlamydophilia felis* *Streptococcus zooepidemicus*	VCM111AC

MEMO

Vcheck M

State-of-the-art POC Molecular Diagnostic System

rev.4

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BIONOTE, Inc. 22, Samsung 1-ro 4-gil, Hwaseong-si, Gyeonggi-do, 18449, Republic of Korea
TEL: 82-31-211-0516 | FAX: 82-31-8003-0618 | www.bionote.co.kr