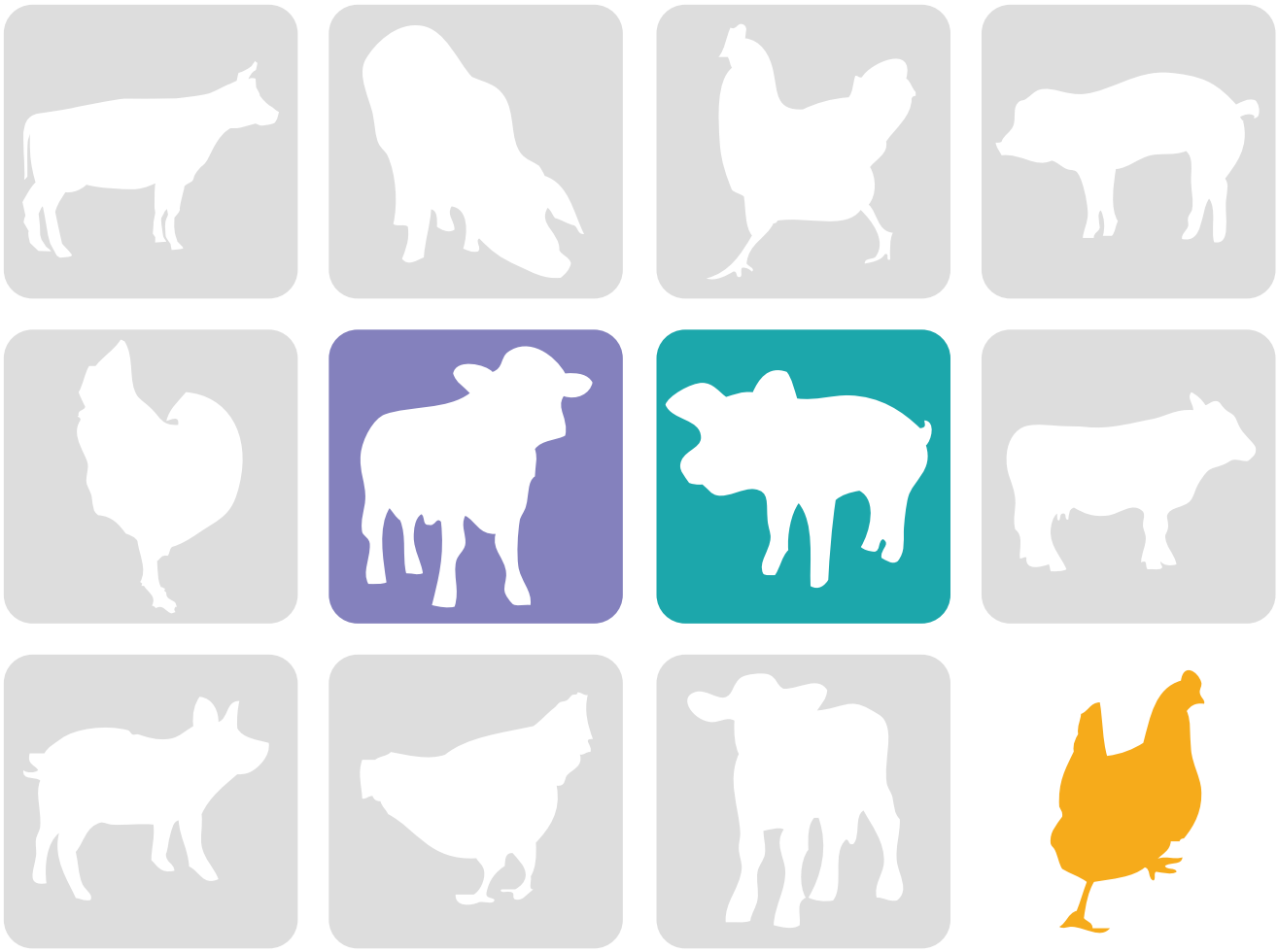
Livestock
Product Catalog | Ver.7.0



CTLS_EN

BIONOTE

HISTORY

2003 ~2008

2003. 03 Anigen, Inc. established
2003. 11 Acquired animal medicine import license
2003. 12 Acquired animal medicine manufacturing industry permission
2004. 09 Acquired ISO 9001:2000 TUV certification

2006. 04 Canine Distemper virus antibody diagnostic kit patent acquisition
2006. 04 Canine Parvovirus antibody diagnostic kit patent acquisition
2006. 06 Venture business certification (No.061627021-01133)
2006. 07 Technical innovation medium and small enterprises certification (No.6065-1216)

2007. 09 H5 and general pathogenic avian influenza virus antigen diagnostic
2007. 11 Name change of Anigen, Inc. to Animal Genetics, Inc.
2007. 12 Winner of the Animal medicine manufacturer self-regulation checking system Prize
2008. 02 World's rst influenza H3N2 type conrmation assay development
2008. 07 Novel canine influenza viruses and vaccine patent acquisition
2008. 12 Winner of the Animal medicine manufacturer self-regulation checking system Prize

2009 ~2015

2009. 01 Anigen AIV Ab ELISA knowledge economics department new product certification (NEP)acquisition
2009. 02 Name change of Animal genetics, Inc. to BIONOTE,Inc.
2009. 05 Food & Drug Administration medicine manufacturing industry permission acquisition
2009. 12 ISO 2003:13485 TUV certification acquisition Anigen Rapid Canine Heartworm Ag Test Kit USDA licensed

2011. 01 Acquisition by Alere
2012. 02 Built the 2nd building for Manufacturing, Warehouse, R&D lab.
2012. 04 Registered International Patent (PCT) for "A Novel Canine influenza virus and Vaccine"
2013. 02 AniGen TB-feron ELISA kit was assigned as an ocial diagnosis method for bovine tuberculosis eradication program in Korea
2014. 11 Spun off as an independent company from Alere, Inc. (USA)
2014. 12 Expanded Manufacturing facility
2015. 11 Expanded office and laboratory by moving to a new building

2016 ~

2016. 09 Launched Vcheck F, a fluorescence device for animals

2018. 04 Research facility BL3 (Biosafety Laboratory) Room certified for the first time by the government

2020.06 Developed NowCheck COVID-19 Ag/Ab Test (CE certification)
2020.06 Development of NowCheck COVID-19 Ag/Ab Test (CE certified)

2022.09 Launched Vcheck M, State-of-the-art POC molecular system
2022.12 Vcheck F global cumulative sales passes 16,000 units (World's best selling fluorescence immunoassay analyzer)

INTRODUCTION & CONTENTS

BIONOTE, Inc. was established in the beginning of 2003, and is considered a pioneer of *in-vitro* Diagnostics for veterinary needs. BIONOTE delivers innovative and creative solutions for our customers improving their vet healthcare. BIONOTE has it's own automated facility to manufacture a wide range of high quality products developed by a highly competent R&D center. BIONOTE has manufactured diagnostic products in accordance with ISO 9001:ISO13485 certification, and has expanded overseas sales network in over 80 countries and is still continuing to grow.

Avian

Swine

FMD

Bovine

Etc.

AIV Ab ELISA

Validated from
*IZS delle Venezie, Legnaro (Padova), Italy
*FGI «ARRIAH», Federal Center For Animal Health, Russia
*University of Hokkaido, Graduated School of Veterinary Medicine

Avian Influenza type A virus antibody

Wild birds and some poultry infected by HPAI show no clinical signs, and their virus shedding amount is too small to be detected by an antigen capture immunoassay. The BIONOTE AIV Ab ELISA has been developed for screening these latent AIV carriers by detecting AIV antibodies.

Indications

- Avian influenza virus antibody detection
- Monitoring of Avian Influenza virus carrier
- Antibody detection for migratory bird surveillance

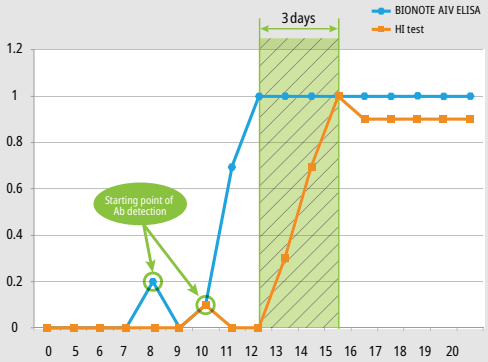
Special Features

- No cross-reaction with other avian virus positive sera
- Applicable to various species
- Specimen: Serum, plasma or egg yolk
- No sample dilution is required
- Reading time: 45 minutes
- Sensitivity: Chicken 98.2%, Duck 97.5%, Turkey 97.1%
- Specificity: Chicken 97.3%, Duck 93.8%, Turkey 100%

Quick Procedure

1. Prepare AIV NP antigen coated test plate
2. Add 50 µl of controls and sample to wells
3. Add 50 µl of anti AIV antibody-HRP to each well
4. Incubate plate for 30 minutes at 37°C
5. Wash plate 6 times
6. Add 100 µl of substrate (Ready to use) and incubate the wells for 10 minutes at room temperature
7. Add 100 µl of stopping solution
8. Measure the optical density (OD) at 450nm with reference wavelength at 620nm
9. PI value=[1-(OD_{sample}/mean OD_{NC})] x 100

Evaluation of AIV Antibody detection in egg yolk



*BIONOTE AIV Ab ELISA kit showed that it can detect the antibody in egg yolk approximately 3~5 days earlier than HI test.

Ordering Information

Cat. No.	Description	Type	Packing size
EB4502PO	AIV Ab ELISA	Microplate	480 Wells/Kit

AIV Ag

Validated from
*VLA, Veterinary Laboratory Agency, United Kingdom
*FLI, Friedrich Loeffler Institute FLI, Germany
*CSIRO, Australian Animal Health Laboratory
*FGI «ARRIAH», Federal Center For Animal Health, Russia

Avian Influenza type A virus antigen

Influenza viruses that infect birds are called "Avian Influenza virus (AIV)" with only influenza type A viruses infecting birds. Influenza type A viruses are divided into subtypes based on two proteins, hemagglutinin (HA) and neuraminidase (NA), on the surface of the virus. AIV can infect chickens, turkeys, pheasants, quail, ducks, geese, and guinea fowl, as well as wide variety of birds. AIV is transmitted primarily through direct contact from infected birds to healthy birds, and through indirect contact with contaminated equipment and materials. The virus is excreted through infected birds' feces and secretions from their noses, mouths, and eyes.

Indications

- Field monitoring of Avian Influenza virus
- Tentative diagnosis for swift control in outbreak suspected situation
- Differential diagnosis of other avian major diseases

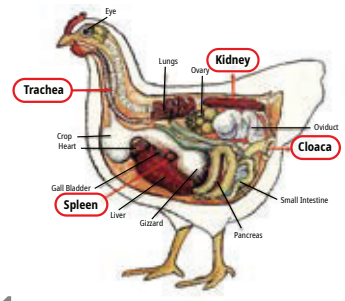
Detection Limit Study

Evaluated by	IZS institution (Italy)		Konkuk Univ. (Korea)	
Virus	A/ty/It/214845 /02/H7N3	A/ty/It/90302 /05/H5N2	H9N2 H5N8	NWS/33 H1N1
Detection Limit (EID_{50}/ML)	$10^{4.5}$	$10^{4.5}$	$10^{4.5}$	$10^{3.5}$

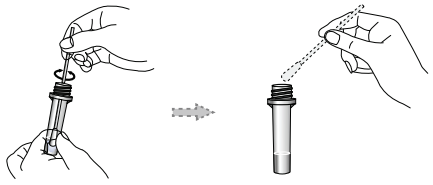
Special Features

- Detection of all AIV type A
- No cross-reaction with other avian viruses
- Applicable to various species
- World's first commercialized rapid test kit for AIV
- Validated from OIE reference laboratories
- Specimen: Trachea, kidney, spleen or cloaca (feces)
- Sensitivity: 100% by farm (n=19), 77.3% by feces (n=150)
- Specificity: 100% vs. HA, PCR (n=1,402)

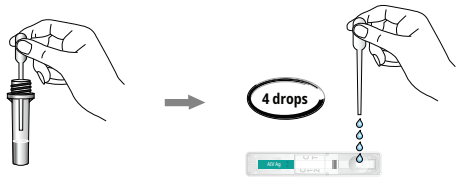
Test Procedures



1 Collect swab sample from trachea, kidney, spleen or cloaca(feces.)



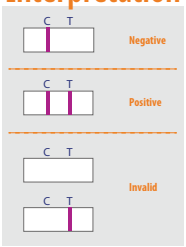
2 Insert the swab into the sample tube containing assay diluent, and mix the swab until the sample has been dissolved into the assay diluent. Squeeze the swab against the well of tube and then discard it.



3 Take the supernatant with disposable dropper provided.

4 Add 4 drops into the sample hole with disposable dropper.

Interpretation



Ordering Information

Cat. No.	Description	Type	Packing size
RG1501MH	Rapid AIV Ag	Multi device	10 Tests x 3/Kit

IBDV Ag

Infectious Bursal Disease virus antigen

Infectious Bursal Disease (IBD), or Gumboro Disease, is a viral disease usually affecting young chickens 3 to 6 weeks old, and transmitted by contaminated feed and water. Bursa of Fabricious is the main target organ of IBDV, which is an important organ for young chickens as an immune development. IBDV serotype 1 causes clinical disease in chickens younger than 10 weeks, with older chickens usually showing no clinical signs. IBDV serotype 2 is widespread in turkeys and is sometimes found in chickens and ducks. In practice, a diagnosis can be indicated by the sudden onset of mortality in chickens between 2 and 8 weeks of age, and the presence of distinctive lesions in the Bursa of Fabricious and accompanying blood spots in the musculature of the breast and thigh of affected chickens.

Indications

- Field monitoring of Infectious Bursal Disease virus
- Tentative diagnosis for swift control in outbreak suspected situation
- Differential diagnosis of other avian major diseases

Special Features

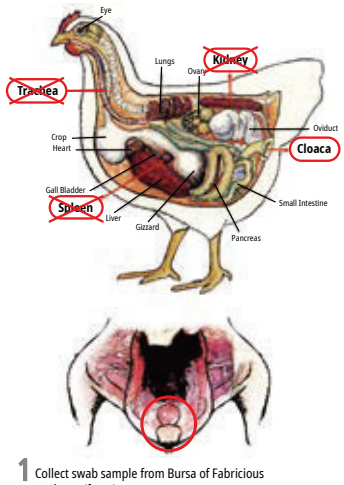
- Detection of all IBDV
- No cross-reaction with other avian viruses
- Specimen: Bursa of Fabricious, Cloaca
- World's first commercialized rapid test kit for IBDV
- Sensitivity: 99.9% vs. RT-PCR
- Specificity: 96.6% vs. RT-PCR

Sensitivity and Specificity tests

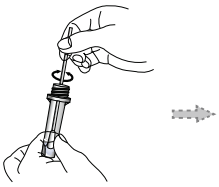
		RT-PCR	
		+	-
Anigen Rapid IBDV Ag	+	12	5
	-	0	145

* Sensitivity : 99.9%, Specificity : 96.6%

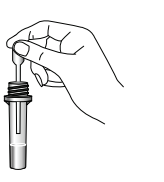
Test Procedures



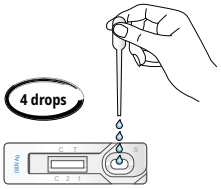
1 Collect swab sample from Bursa of Fabricious or cloaca (feces)



2 Insert the swab into the sample tube containing assay diluent and mix the swab until the sample has been dissolved into the assay diluent.



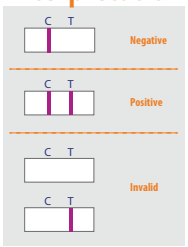
3 Take the supernatant with disposable dropper provided.



4 Add 4 drops into the sample hole with disposable dropper.

10 min.

Interpretation



Ordering Information

Cat. No.	Description	Type	Packing size
RG1504DD	Rapid IBDV Ag	Device	1 Test x 10/Kit

IBV Ag

Infectious bronchitis virus antigen

Infectious bronchitis (IB) is a worldwide distributed viral disease affecting all ages of chickens. The mortality rate is depending on the age and immune status of the birds when infected, and the presence of secondary invading organisms such as E. coli. It is highly contagious disease that can be transmitted through an entire flock within one or two days, through aerosol transmission (sneezing), contaminated organic material, drinking water and equipment. The target organs of the virus are trachea and kidney for the respiratory strain and nephrogenic strain respectively. It is financially important disease in poultry industry because affected layers have decreased egg production and poor egg quality.

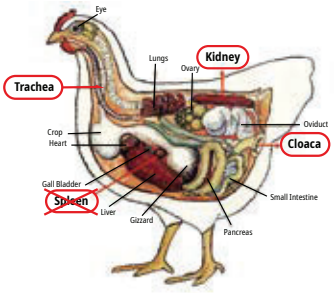
Indications

- Field monitoring of Infectious Bronchitis virus
- Tentative diagnosis for swift control in outbreak suspected situation
- Differential diagnosis of other avian major diseases

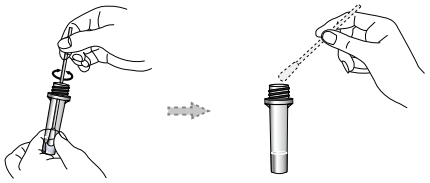
Special Features

- Detection of all IBV
- No cross-reaction with other avian viruses
- World's first commercialized rapid test kit for IBV
- Specimens: Trachea, kidney or cloaca (feces)
- Sensitivity: 94.1% vs. RT-PCR
- Specificity: 95.2% vs. RT-PCR

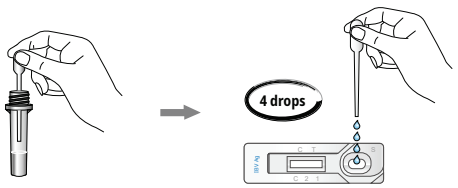
Test Procedures



1 Collect swab sample from trachea, kidney or cloaca (feces).



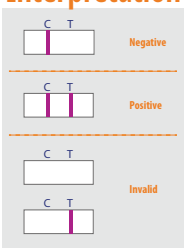
2 Insert the swab into the sample tube containing assay diluent and mix the swab until the sample has been dissolved into the assay diluent and squeeze the swab against the well of tube and then discard it.



3 Take the supernatant with disposable dropper provided.

4 Add 4 drops into the sample hole with disposable dropper.

Interpretation



Ordering Information

Cat. No.	Description	Type	Packing size
RG1513DD	Rapid IBV Ag	Device	1Test x 10/Kit

NDV Ag

Newcastle Disease virus antigen

Newcastle Disease (ND) is characterized by sneezing, coughing, and neurologic sign. Mortality rate is especially very high in the young age group (about 90%). Affected layer has poor egg quality and reduced egg production in initial phase but usually return to normal levels within four to eight weeks. ND can cause sudden death even in vaccinated poultry and spread rapidly to nearby flocks. Diagnosis is usually made by virus isolation, serology and clinical signs. It has been reported that hemagglutination inhibition (HI) test which is used widely in ND virus serology has cross reactions with other paramyxoviruses. The Anigen Rapid NDV Ag test kit is highly specific to NDV.

Indications

- Field monitoring of Newcastle Disease virus
- Tentative diagnosis for swift control in outbreak suspected situation
- Differential diagnosis of other avian major diseases

Special Features

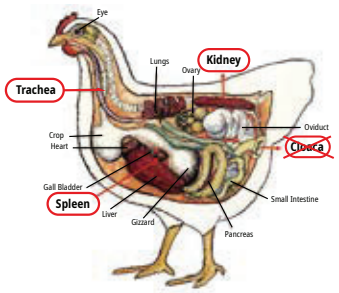
- Detection of all NDV
- No cross-reaction with other avian viruses
- World's first commercialized rapid test kit for detection of NDV
- Specimens: Trachea, kidney or spleen
- Sensitivity: 94.7% vs. RT-PCR
- Specificity: 96.4% vs. RT-PCR

Sensitivity and Specificity tests

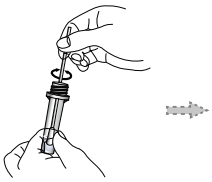
		RT-PCR	
		+	-
Anigen Rapid NDV Ag	+	18	3
	-	1	81

* Sensitivity : 94.7%, Specificity : 96.4%

Test Procedures

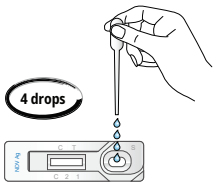


1 Collect swab sample from oropharynx, kidney or spleen.



2 Insert the swab into the sample tube containing assay diluent, and mix the swab until the sample has been dissolved into the assay diluent. Squeeze the swab against the well of tube and then discard it.

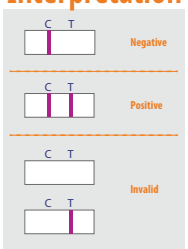
3 Take the supernatant with disposable dropper provided.



4 Add 4 drops into the sample hole with disposable dropper.

10 min.

Interpretation



Ordering Information

Cat. No.	Description	Type	Packing size
RG1503DD	Rapid NDV Ag	Device	1 Test x 10/kit

CSFV Ab ELISA

Classical Swine Fever virus antibody

Classical Swine Fever Virus (CSFV), previously called hog cholera virus, is a Pestivirus in the family Flaviviridae. The CSFV is closely related to the ruminant pestiviruses which cause Bovine Viral Diarrhea (BVDV) and Border Disease (BDV). The virulence of CSFV strains varies widely which is leading to a wide range of clinical signs. Highly virulent strains result in acute and severe clinical signs including neurological signs and hemorrhages and high mortality rate. Less virulent strains can give rise to sub-acute or chronic infections that may escape detection, while still causing abortions and stillbirth. Herds in high risk areas are usually serologically tested on a thorough statistical basis.

Indications

- Routine monitoring of CSFV
- Diagnosis of CSFV by antibody titration
- Titer check after vaccination

Special Features

- No cross reaction with other swine disease positive sera
- Blocking ELISA which is OIE reference method for CSFV
- Specimen: Plasma, Serum
- Reading time: 1 hour and 45 minutes
- Sensitivity: 99.3% vs. Commercial ELISA
- Specificity: 99.7 % vs. Commercial ELISA

Correlation rates with other commercial ELISA

- Random 274 samples from vaccinated group

	Commercial ELISA A	Commercial ELISA B
BIONOTE CSFV Ab ELISA	Different results	
	27 samples	17 samples
Correlation rate	90.0%	93.8%

Quick Procedure

1. Prepare CSFV antigen coated test plate
2. Add 50 µl of the sample diluent into each well of the plate
3. Add 50 µl of controls and samples to wells
4. Incubate plate for 60 minutes at 37°C
5. Wash plate 5 times
6. Add 100 µl of enzyme conjugate(ready to use) into each well
7. Incubate the wells at 37°C for 30 minutes
8. Wash plate 5 times
9. Add 100 µl of substrate(ready to use) to each well and incubate for 15 minutes at room temperature
10. Add 100 µl of stopping solution
11. Measure the optical density (OD) at 450 nm with reference wavelength at 620nm
12. PI value = [1-(mean OD $_{sample}$/mean OD $_{NC}$)] x 100

Ordering Information

Cat. No.	Description	Type	Packing size
EB4413PO	CSFV Ab ELISA	Microplate	480 Wells/Kit

PED Ag

Porcine Epidemic Diarrhea virus antigen

Porcine epidemic diarrhea virus (PEDV) is a member of the coronavirus group which causes watery diarrhea, dehydration and high mortality in suckling pigs. Porcine Transmissible Gastroenteritis Virus (TGEV) is serologically unrelated with PEDV, but clinically these two virus infections are difficult to differentiate. The PEDV is transmitted by feces from infected pigs after oral ingestion. Current available laboratory diagnosis for PED is a cryostat section - direct immunofluorescence assay of the small intestine or colon. ELISA and RT-PCR assays to detect viral antigens in feces or intestinal contents are useful, but require specialized instruments and laboratory personnel. The Anigen Rapid PED Ag test kit has been developed to provide fast and reliable test results of PED antigen in field conditions.

Indications

- Differential diagnosis of swine diarrheal disease
- PEDV field monitoring
- Tentative diagnosis for swift control in outbreak suspected situation

Specifications

- No cross reaction with other etiologic agents
- World's first & sole PED virus antigen rapid test kit
- Specimen : Diarrheal feces
- Sensitivity: 92% vs. RT-PCR
- Specificity: 98% vs. RT-PCR

Sensitivity and Specificity tests

		RT-PCR	
		+	-
Anigen Rapid PED Ag	+	164	4
	-	15	184

* Sensitivity : 92.0%, Specificity : 98.0%

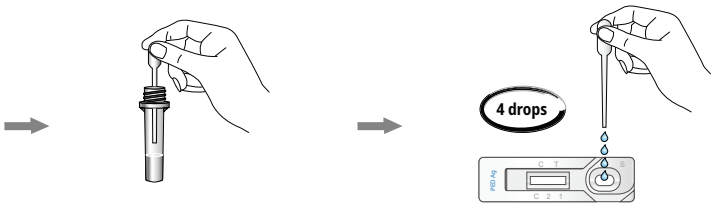
Cross-reaction Tests

	Sample		
	PEDV	TGEV	*E.coli*
Anigen Rapid PED Ag	POS	-	-
Anigen Rapid TGE Ag	-	POS	-

Test Procedures

1 Collect sample from diarrheal feces using the swab.

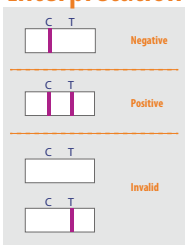
2 Insert the swab into the sample tube containing assay diluent, and mix the swab until the sample has been dissolved into the assay diluent. Squeeze the swab against the well of tube and then discard it.



3 Wait 30 seconds for sedimentation and take the supernatant with disposable dropper provided.

4 Add 4 drops into the sample hole with disposable dropper.

Interpretation



Ordering Information

Cat. No.	Description	Type	Packing size
RG1401DD	Rapid PED Ag	Device	1 Test x 10/Kit

PED IgA Ab ELISA

Porcine Epidemic Diarrhea virus

Porcine epidemic diarrhea virus (PEDV) is a member of the family Coronaviridae. PEDV causes acute enteritis in swine of all ages, and it is often fatal for neonatal piglets.

To protect piglets from PEDV, Sow transfers immunoglobulin through colostrum to their children until the piglets acquire adaptive immunity. Many reports suggest that IgA is important for protection of PEDV. BIONOTE PED IgA Ab ELISA measures preventive anti PED-virus IgA titers of sow and predict defense capability of piglets induced by passive antibody transfer.

Indications

- Quantitative detection of PED IgA antibody
- Screening for defensive capacity against PEDV

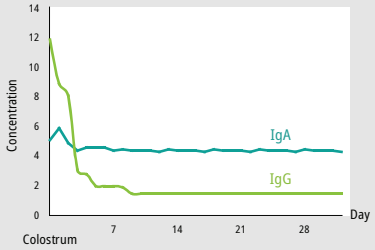
Special Features

- Easy sample collection
- Optimal screening method for defensive capacity of PEDV
- Specimen : Colostrum
- Reading Time : 1 hour and 45 minutes
- Survival rate of IgA positive confirmed group after challenge : see tables below

Quick Procedure

1. Prepare PED antigen coated test plate
2. Dispense 100 µl of sample diluent into each well
3. Dispense 10 µl of positive, negative control and samples to each well
4. Incubate the plate at 37±1℃ for 60 minutes
5. Wash the plate 5 times
6. Dispense 100 µl of diluted enzyme conjugate to each well
7. Incubate the wells for 30 minutes at 37±1℃
8. Wash the plate 5 times
9. Dispense 100 µl of substrate to each well
10. Incubate the wells for 15 minutes at room temperature (18~25℃)
11. Dispense 100 µl of stopping solution
12. Measure the optical density (OD) at 450nm with reference wavelength at 620nm
13. Cut off value = [0.35+ mean OD $_{NC}$]

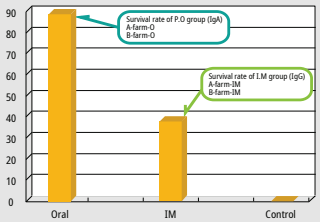
Changes in composition of colostrum



(The concentration of the IgA is higher than IgG in sow's milk)

Antibody development (in pregnant sows. 2007 research)

◆ Inoculated agent : cell adapted DR13 strain
◆ Specific ELISA was used for IgA detection



(Piglet survival rate)
(Research in Veterinary Scien ce, Song et al., 2007)

Ordering Information

Cat. No.	Description	Type	Packing size
EB4410PO	PED IgA Ab ELISA	Microplate	480 Wells/Kit

PRRS Ab ELISA 4.0

Porcine Reproductive and Respiratory Syndrome antibody

Porcine reproductive and respiratory syndrome (PRRS) is characterized by reproductive failure of sows and respiratory problems of piglets and growing pigs. The disease is caused by PRRS virus, currently classified as a member of family Arteriviridae, genus Arterivirus. The primary target cell of the virus is alveolar macrophage of pigs. Two major types of the virus exist, the European (EU) and the North America (NA) strain. The virus is primarily transmitted by contaminated feces, urine, semen and infected pigs. High level of sanitary management system is required because fomite infection is also possible.

Indications

- Routine monitoring of PRRS
- PRRS diagnosis of non-vaccinated group
- Titer check after vaccination

Special Features

- No singleton reactor (false positive)
- Antibodies against European strain, North America strain and Korean strain can be detected
- No cross reaction with other swine disease positive sera
- Specimen: Plasma, Serum
- Reading time: 75 minutes
- Sensitivity: 98.7% vs. IFA
- Specificity: 99.7% vs. IFA

Quick Procedure

1. Prepara antigen coated micro assay plate
2. Dilute test samples and controls with sample diluent (1:39 dilution)
3. Add 100 µl of diluted samples and controls to wells
4. Incubate plate for 30 minutes at room temperature
5. Wash plate 5 times
6. Add 100 µl of enzyme conjugate to wells
7. Incubate plate for 30 minutes at room temperature
8. Wash plate 5 times
9. Add 100 µl of substrate solution and incubate for 15 minutes at room temperature in dark
10. Add 100 µl of stop solution
11. Measure the optical density (OD) at 450 nm with reference wavelength at 620 nm
12. S/P value=[OD_{sample}-mean OD_{NC}]/[mean OD_{PC}- mean OD_{NC}]

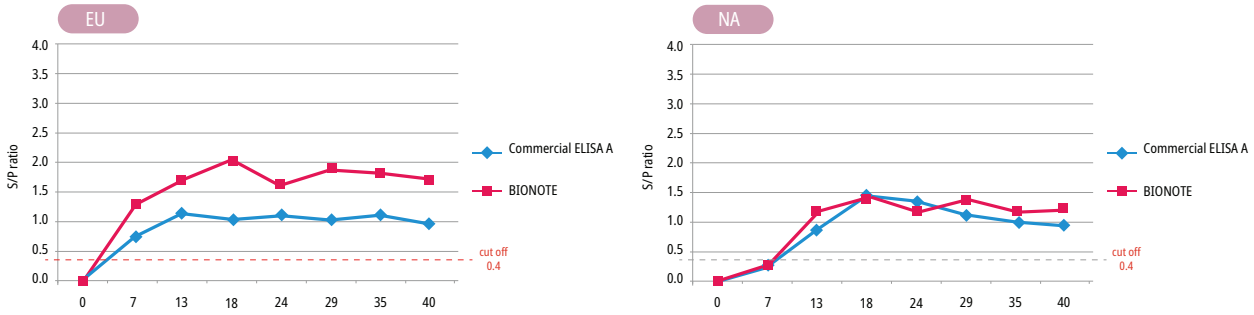
Sensitivity and specificity study

-BIONOTE PRRS Ab ELISA 4.0 has high sensitivity, 98.7% and high Specificity, 99.7%

		BIONOTE PRRS Ab ELISA 4.0		
		Positive	Negative	Total
IFA	Positive	324	4	328
	Negative	1	333	334
	Total	325	337	662

Seroconversion study after challenge of PRRSV

*1) Antibody response after challenge with PRRS EU, NA strain*r



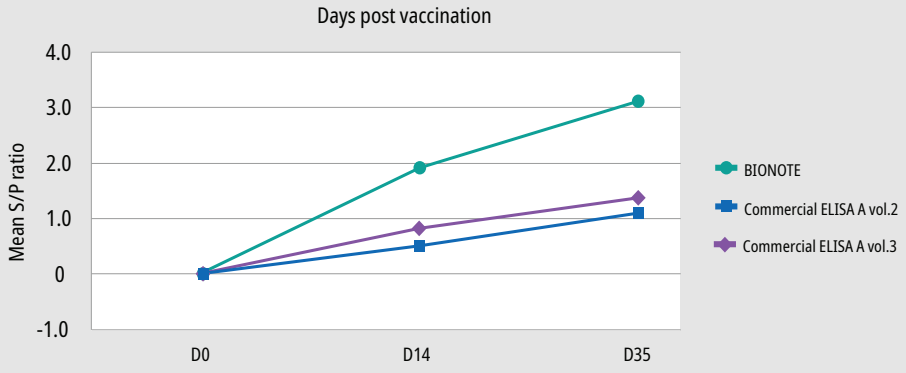
* BIONOTE PRRS Ab ELISA 4.0 can detect PRRS Ab from DPI 7 with PRRS EU and NA strain

Compare with other commercial ELISA

Product	BIONOTE	Commercial ELISA A vol.2	Commercial ELISA A vol.3
Test well No. for 1 sample	1 Well	2 Well	1 Well
Time	Incubation 30 min.	Incubation 30 min.	Incubation 30 min.
Cut off value	S/P 0.4	S/P 0.4	S/P 0.4
Singleton reactor	No	Yes	No

BIONOTE *PRRS Ab ELISA Kit is more sensitive than others*

Detection period is earlier than Commercial ELISA A with no singleton reactor



<PRRS vaccination DPI results>

Ordering Information

Cat. No.	Description	Type	Packing size
EB4404PO	PRRS Ab ELISA 4.0	Microplate	480 Wells/Kit

TGE/PED Ag

Transmissible Gastroenteritis virus/ Porcine Epidemic Diarrhea antigen

Transmissible Gastro-Enteritis (TGE) is a viral disease of the small intestine that causes vomiting and diarrhea in pigs of all ages. The infection spreads rapidly by aerosol or contact exposure.
Porcine Epidemic Diarrhea Virus (PEDV) is a member of the coronavirus group which causes watery diarrhea, dehydration and high mortality in suckling pigs. The PEDV is transmitted by feces from infected pigs after oral ingestion.
ELISA and RT-PCR assays to detect viral antigens in feces or intestinal contents are useful, but require specialized instruments and laboratory personnel. The Anigen Rapid TGE/PED Ag test kit has been developed to provide fast and reliable test results of TGE/PED antigen in field conditions.

Indications

- Differential diagnosis of swine diarrheal disease
- TGE/PED field monitoring
- Tentative diagnosis for swift control in outbreak suspected situation

Sensitivity and Specificity tests

RT-PCR	Sensitivity	Specificity
Rapid TGE Ag	92.1%	95.2%
Rapid PED Ag	92%	98%

Special Features

- No cross-reaction with other etiologic agents
- World's first & sole TGE/PED virus antigen Rapid test kit
- Specimen : Diarrheal feces

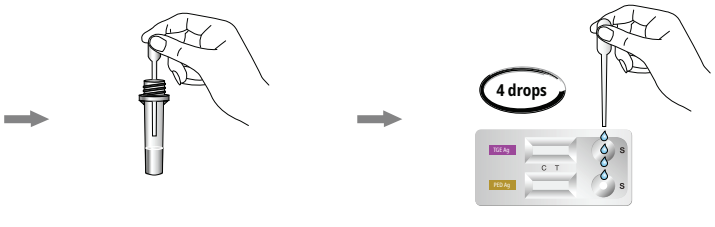
Cross-reaction Tests

	Sample		
	PEDV	TGEV	*E.coli*
Anigen Rapid PED Ag	POS	-	-
Anigen Rapid TGE Ag	-	POS	-

Test Procedures

1 Collect sample from diarrheal feces using the swab.

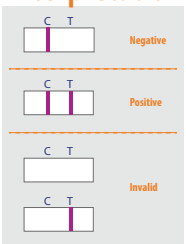
2 Insert the swab into the sample tube containing assay diluent, and mix the swab until the sample has been dissolved into the assay diluent. Squeeze the swab against the well of tube and then discard it.



3 Wait 30 seconds for sedimentation and take the supernatant with disposable dropper provided.

4 Add 4 drops into the sample hole with disposable dropper.

Interpretation



Ordering Information

Cat. No.	Description	Type	Packing size
RC1403DD	Rapid TGE/PED Ag	Dual Device	1 Test x 10/Kit

PED/TEG/Rota Ag

PED/TGE/Rota antigen

Porcine Epidemic Diarrhea Virus (PEDV) is a member of the coronavirus group which causes watery diarrhea, dehydration and high mortality in suckling pigs. The PEDV is transmitted by feces from infected pigs after oral ingestion.
Transmissible Gastro-Enteritis (TGE) is a viral disease of the small intestine that causes vomiting and diarrhea in pigs of all ages. The infection spreads rapidly by aerosol or contact exposure.
Rotavirus is the most common viral causative agent of diarrhea in pigs, cattle and dogs. Group A and B rotavirus are involved with group A being most prevalent and clinically important, containing several serotypes of differing virulence. All ages are susceptible.
ELISA and RT-PCR assays to detect viral antigens in feces or intestinal contents are useful, but require specialized instruments and laboratory personnel. The Anigen Rapid PED/TGE/Rota Ag test kit has been developed to provide fast and reliable test results of PED/TGE/Rotavirus antigen in field conditions.

Indications

- Differential diagnosis of swine diarrheal disease
- PED/TGE/Rotavirus field monitoring
- Tentative diagnosis for swift control in outbreak suspected situation

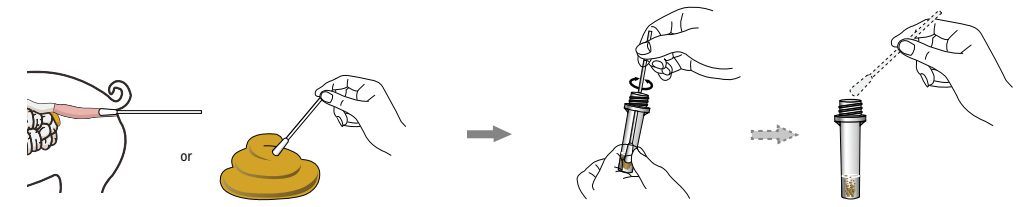
Specifications

- No cross-reaction with other etiologic agents
- World's first & sole PED/TGE/Rotavirus antigen Rapid test kit
- Specimen : Diarrheal feces

Sensitivity and Specificity tests

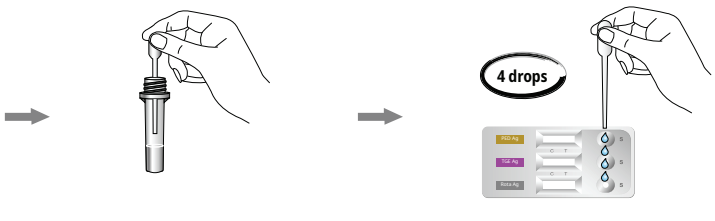
RT-PCR	Sensitivity	Specificity
Rapid TGE Ag	92.1%	95.2%
Rapid PED Ag	92%	98%
Rapid Rota Ag	92%	99%

Test Procedures



1 Collect sample from diarrheal feces using the swab.

2 Insert the swab into the sample tube containing assay diluent, and mix the swab until the sample has been dissolved into the assay diluent. Squeeze the swab against the well of tube and then discard it.

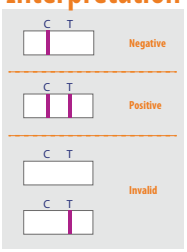


3 Wait 30 seconds for sedimentation and take the supernatant with disposable dropper provided.

4 Add 4 drops into the sample hole with disposable dropper.

10 min.

Interpretation



Ordering Information

Cat. No.	Description	Type	Packing size
RC1406DD	Rapid PED/TGE/Rota Ag	Quadruple Device	1 Test x 10/Kit
RG1803DD	Rapid Rota Ag	Device	1 Test x 10/Kit

FMD NSP Ab

Foot and mouth disease virus antibody

Foot-and-mouth disease (FMD) is a highly contagious viral infection primarily of cloven-hoofed domestic animals, such as cattle, pigs, sheep, goats, deer, and water buffalo. In many countries the disease is controlled by vaccinations that consist of (partly) purified structural proteins (SP) of the FMD virus, and therefore vaccinated animals only elicit antibodies directed against the structural proteins. Non structural protein (NSP) is expressed only by replicating viruses, and inactivated vaccines are purified to remove the cellular proteins and NSP. Therefore, only animals that have been infected with wild type develop antibodies against NSP. It is important to differentiate SP and NSP antibodies in countries that use vaccination to control FMDV outbreaks to discriminate wild type infections and immune response to vaccination.

Indications

- To discriminate between infection and vaccination
- For field diagnosis of FMD in non-vaccinated herds
- Tentative diagnosis for swift control in outbreak suspected situation

Special Features

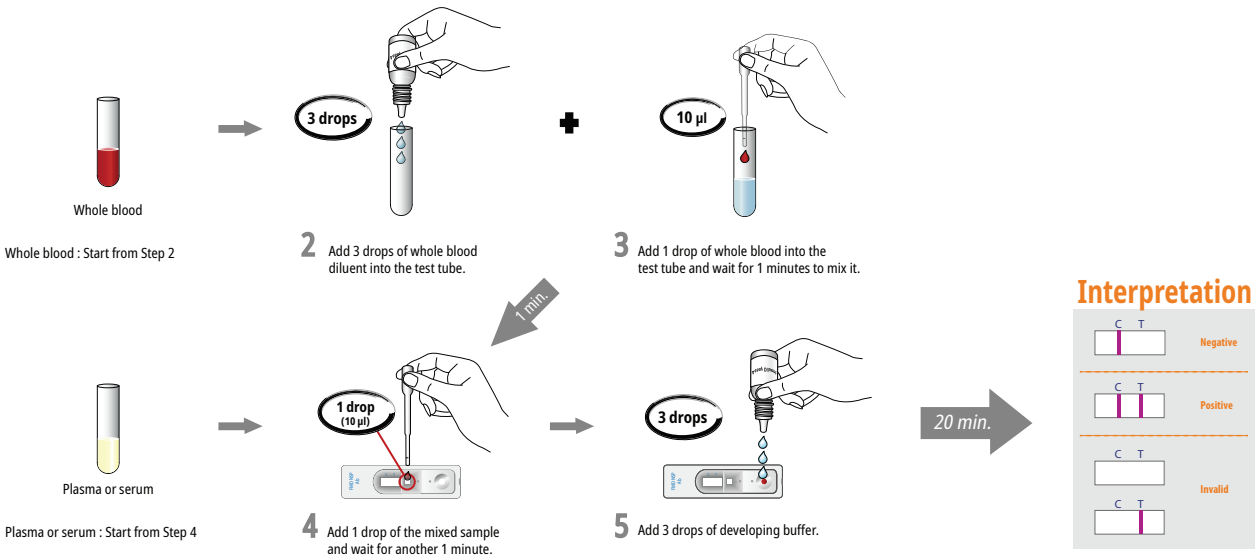
- No cross reaction with vaccinated group
- Specimens: Blood, Plasma, Serum
- Applicable to all artiodactyl mammals (Cattle, Sheep, Goat, Pig)
- Sensitivity: 95.4% (Bovine), 95.5% (Porcine)
- Specificity: 99.0% (Bovine), 98.4% (Porcine)

Sensitivity and Specificity tests

Bovine		Commercial ELISA	
		+	-
Anigen Rapid FMD NSP Ab	+	270	5
	-	13	507

Porcine		Commercial ELISA	
		+	-
Anigen Rapid FMD NSP Ab	+	21	9
	-	1	566

Test Procedures



Ordering Information

Cat. No.	Description	Type	Packing size
RB2802DD	Rapid FMD NSP Ab	Device	1 Test x 10/Kit

FMD NSP Ab ELISA 2.0

Foot and mouth disease virus antibody

Foot-and-mouth disease (FMD) is a highly contagious viral infection primarily of cloven-hoofed domestic animals, such as cattle, pigs, sheep, goats, deer, and water buffalo. In many countries the disease is controlled by vaccinations that consist of (partly) purified structural proteins (SP) of the FMD virus, and therefore vaccinated animals only elicit antibodies directed against the structural proteins. Non structural protein (NSP) is expressed only by replicating viruses, and inactivated vaccines are purified to remove the cellular proteins and NSP. Therefore, only animals that have been infected with wild type develop antibodies against NSP. It is important to differentiate SP and NSP antibodies in countries that use vaccination to control FMDV outbreaks to discriminate wild type infections and immune response to vaccination.

Validated from
*FGI «ARRIAH», Federal Center For Animal Health, Russia

Indications

- Discriminate sera between infection and vaccination
- Diagnosis of FMD in non-vaccinated herds
- Screening for test and slaughter government policy

Special Features

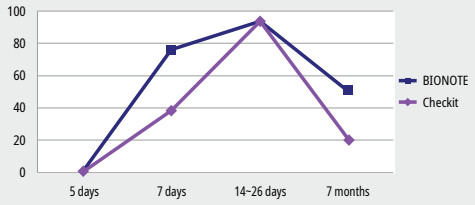
- Differential test of FMD infected or vaccinated
- High accuracy equivalent to a world standard ELISA kit
- Easy test procedure: No serum pre-dilution required
- Cost effective: No requirement for an uncoated microplate for serum pre-dilution
- Species: Cattle, Sheep, Goat, Pig
- Specimen: Plasma, Serum
- Reading time: 1 hour and 45 minutes
- Sensitivity: Cattle 93.8%
- Specificity: Cattle 99.9%, Pig 99.9%, Sheep & goat 100%

Quick Procedure

1. Prepare FMD NSP antigen coated test plate
2. Add 50 µl of controls and sample to wells
3. Add 50 µl of diluted enzyme conjugate to wells
4. Incubate plate for 90 minutes at 37°C
5. Wash plate 6 times
6. Dispense100 µl of substrate (Ready to use) into each well and incubate for 15 minutes at room temperature
7. Add 100 µl of stopping solution
8. Measure the optical density (OD) at 450 nm with reference wavelength at 620nm
9. PI value=[1-(OD $_{sample}$/mean OD $_{NC}$)] x 100

Reactivity of BIONOTE *FMD NSP Ab ELISA 2.0 for sera originated from vaccinated animals*

BIONOTE FMD NSP Ab ELISA 2.0 detects antibodies against nonstructural protein from 7 days to 7 months after infection
(*Experimentally contact challenge animal group, The performance evaluation was performed in OIE FMD Ref. Laboratory)



BIONOTE	0%	76.1%	93.8%	50%
Checkit	0%	38.3%	93.8%	20%

Ordering Information

Cat. No.	Description	Type	Packing size
EB4804PO	FMD NSP Ab ELISA 2.0	Microplate	480 Wells/Kit

FMD Type O Ab ELISA

Foot and mouth disease (FMD) SP Antibody

Foot-and-mouth disease(FMD) is a highly contagious viral disease of cloven-hoofed animals. The symptoms include high fever for two or three days and blisters inside the mouth and on the feet which may lead to lameness. FMD has critical impacts on livestock industry since it can be easily spread by infected animals via aerosols, farming instruments and wild predators thereby affecting trade and quarantine among the countries Our BIONOTE FMD SP Ab ELISA is a Competitive Enzyme Linked Immunosorbent Assay for the qualitative detection of antibody to FMD SP(serotype O) in serum or plasma of cow, pig and goat.

Indications

- Detection of anti-FMD SP(serotype O) Ab
- Diagnosis of FMD in non-vaccinated herds
- Screening test for vaccination antibodies

Special Features

- Specimen : Serum, Plasma
- Reading time : 105 minutes
- High Sensitivity, High Specificity
- Can be applied to various animal species including cow, pig, and goat

Quick Procedure

1. Pre-incubate all reagents and samples for 30 minutes in room temperature and shake them before use
2. Prepare strip wells for negative control, positive control, validation control 1, validation control 2, and samples
3. Dispense 25 µl of negative control into three wells
4. Dispense 25 µl of positive control into two wells
5. Dispense 25 µl of validation control 1, validation control 2, and samples into appropriate wells
6. Add 100 µl of diluted enzyme conjugate
7. Shake the plate
8. Cover the plate and incubate for 90 minutes at 37°C
9. Wash 6 times with 350 µl of diluted washing solution
10. Add 100 µl of substrate right after removing washing solution
11. Incubate the plate for 15 minutes at room temperature in the dark
12. Add 100 µl of stop solution
13. Measure the optical density (OD) at 450nm with reference wavelength at 620 within 30 minutes
14. PI Value = [1-(mean OD_{sample}/mean OD_{NC})] x 100

Ordering Information

Cat. No.	Description	Type	Packing size
EB4803PO	FMD Type O Ab ELISA	Microplate	480 Wells/Kit

B.Brucella Ab ELISA 2.0

Bovine Brucellosis antibody

Bovine brucellosis is commonly caused by *Brucella abortus* and less frequently by *B. melitensis*, and rarely by *B. suis*. Humans may be infected by contact with animals or animal products contaminated with these bacteria. Serological tests include the Rose Bengal, ELISA, complement fixation test and tube agglutination test. BIONOTE B.Brucella Ab ELISA Kit is a serology test that provides high sensitivity and specificity with bovine milk and serum samples.

Indications

- Diagnosis of bovine brucellosis in lab
- Screening for test and slaughter government policy
- Massive screening for bovine import & export market

Special Features

- Fully meets the requirement of EU Council Directive and the OIE Manual
- Standardized by OIE standard sera (B.abortus 1119-3)
- No cross reaction with yersinia enterocolitica
- Specimen: plasma, serum, milk
- Reading time: 1 hour and 45 minutes
- Sensitivity: serum 100%, milk 100% (Vs Commercial ELISA)
- Specificity: serum 97.9 %, milk 99.1% (Vs Commercial ELISA)

Quick Procedure

1. Prepare LPS coated test plate
2. Dilute test samples 1:49 with sample diluent (Do not dilute controls and Milk)
3. Add 100 µl of positive control, negative control, and diluted test samples
4. Incubate the plate for 60 minutes at 37°C
5. Wash plate 5 times
6. Add 100 µl of diluted enzyme conjugate to wells
7. Incubate plate for 30minutes at 37°C
8. Wash plate 5 times
9. Add 100 µl of mixed substrate (Ready to use) to each well and incubate for 15 minutes at room temperature
10. Add 100 µl of stopping solution
11. Measure the optical density (OD) at 450nm with reference wavelength at 620nm
12. %P value=[OD_{sample}/mean OD_{PC}] x 100

(1)Study in serum Specimens :
Total 271 of positive and negative cow serum from KNVRQS*

		BIONOTE ELISA		
		+	-	Total
Commercial ELISA	+	127	0	127
	-	3	141	144
Total		130	141	

Result

Sensitivity	100%	Specificity	97.9%

(2) Study in raw milk Specimens :
Total 271 of positive and negative cow milk from KNVRQS*

		BIONOTE ELISA		
		+	-	Total
Commercial ELISA	+	68	0	68
	-	1	116	117
		69	116	

Result

Sensitivity	100%	Specificity	99.1%

Ordering Information

Cat. No.	Description	Type	Packing size
EB4301PO	B.Brucella Ab ELISA 2.0	Microplate	480 Wells/Kit

B.Brucella Ab

Validated from
*IZS Umbria e Marche, Peruzia, Italy
*Agence Française de Sécurité Sanitaire des Aliments, France

Bovine Brucellosis antibody

Bovine brucellosis is commonly caused by *B. abortus* and less frequently by *B. melitensis*, and rarely by *B. suis*. Humans may be infected by contact with animals or animal products contaminated with these bacteria. Available serological tests include the Rose Bengal, ELISA, complement fixation test and tube agglutination test. However, these tests require sample preparation or specialized person and equipment. The Anigen B. Brucella Ab Test Kit provides swift and accurate field test results.

Indications

- Diagnosis of bovine brucellosis in field
- Screening for test and slaughter government policy
- Massive screening for animal import & export

Special Features

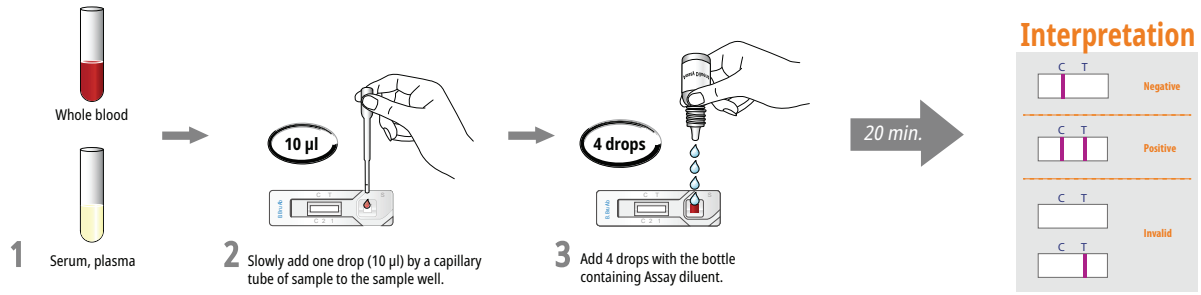
- Detection of antibodies against Brucella *abortus*, *melintensis* and *suis*
- Standardized by OIE standard sera (B.abortus 1119-3)
- More reliable result than rose bengal test
- High correlation with ELISA test
- World's first commercialized rapid test kit for detection of B. brucellosis
- Specimen: Blood, Plasma, Serum
- Sensitivity: 100% vs. ELISA
- Specificity: 99.1% vs. ELISA

Advantages of Anigen Rapid B.Brucella Ab test

	RBT	MRT	Anigen
Specimen	Serum only	Milk only	Whole blood, Serum, Plasma
Use in field	No	Yes	Yes
Time	One day	1 hour	20 minutes
Cross reaction	Cross reaction with Yersinia enterocolitica		No cross reaction

* RBT : Rose Bengal Test
* MRT : Milk Ring Test

Test Procedures



Ordering Information

Cat. No.	Description	Type	Packing size
RG2301DD	Rapid B.Brucella Ab	Device	1 Test x 10/Kit

Brucella Ab C-ELISA

Brucellosis antibody C-ELISA

Brucellosis is a highly infectious zoonosis characterized by chronic infections which persist for a whole lifetime. Symptoms include late-term abortion and infertility in cattles and undulant fever in humans.

Our BIONOTE Brucella Ab C-ELISA is a competitive Enzyme Linked Immunosorbent Assay (ELISA) for the qualitative detection of anti-Brucella antibody in serum or plasma of various species. The ELISA facilitates the differentiation of antibody formation between vaccination(S19 vaccine) and Brucella infection.

Indications

- Diagnosis of brucellosis in multiple species
- Screening for test and slaughter government policy
- Massive screening for animal import & export in multiple species

Special Features

- Specimen : Serum, Plasma
- Reading time : 75 minutes
- No cross-reactivity with other Gram negative bacteria
- High Sensitivity and Specificity
- Can be applied to various animal species including bovine, swine, goat, sheep, and camel et cetera

Quick Procedure

1. Pre-incubate all reagents and samples in room temperature before use
2. Dilute samples and controls in sample diluent (1:9 dilution)
3. Add 50 µl of diluted samples and controls to wells
4. Add 50 µl of biotin conjugates into wells of samples and controls
5. Cover plate and incubate for 30 minutes at room temperature
6. Wash 5 times with 350 µl of diluted washing solution
7. Add 100 µl of diluted enzyme conjugate
8. Cover plate and incubate for 30 minutes at room temperature
9. Wash 5 times with 350 µl of diluted washing solution
10. Add 100 µl of substrate
11. Cover plate and incubate for 15 minutes at room temperature in dark
12. Add 100 µl of stop solution
13. Measure the optical density (OD) at 450nm with reference wavelength at 620 within 30 minutes
14. PI Value = [1-(mean OD_{sample}/mean OD_{NC})] x 100

Performance

Comparative study with other C-ELISA

		BIONOTE C-ELISA		
		Pos	Neg	Total
Commercial ELISA	Pos	161	1	162
	Neg	0	93	93
	Total	161	94	255

· Correlation: 99.6%
· Sensitivity: 99.3%
· Specificity: 100%

Ordering Information

Cat. No.	Description	Type	Packing size
EB4305PO	Brucella Ab C-ELISA	Microplate	480 Wells/Kit

TB-Feron ELISA Plus

Gamma interferon assay for Mycobacterium bovis

Bovine tuberculosis is a chronic infectious disease caused by Mycobacterium bovis. The infection is often subclinical; even when present, clinical signs are not specifically distinctive of this disease and might include weakness, anorexia, emaciation, enlargement of lymphnodes, and cough. Routine screening can be time and labor intensive. BIONOTE TB-Feron ELISA Plus is an Sandwich Enzyme Linked Immunosorbent Assay for the qualitative detection of interferon gamma (IFN-γ). IFN-γ assay is based on the fact that an animal has blood lymphocytes which can memorize stimulating antigen immunologically when it is stimulated by exogenous or endogenous antigens. When an antigen is added to the blood from a primed animal within a tube, antigen specific effector/memory T cell are rapidly re-stimulated to produce IFN-γ, the cytokine, which is used as a specific marker in cell-mediated immune response (recall response). It is an alternative test method of intradermal skin test (PPD) because of its easy procedure and better sensitivity compared to the skin test.

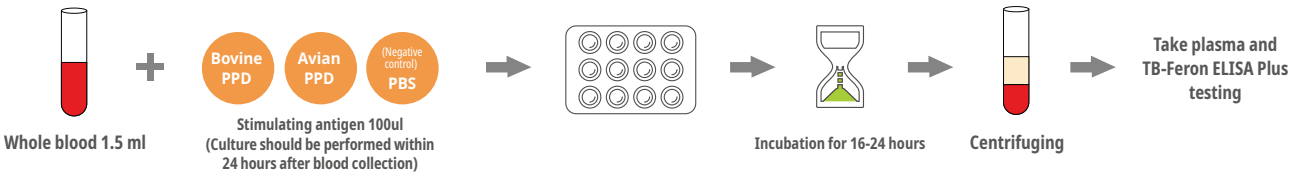
Indications

- Qualitative detection of interferon gamma in bovine plasma
- Diagnosis for government policies on slaughter
- First step for massive screening instead of PPD in a shorthanded situation
- Combine with ELISA or Rapid test in eradication system

Special Features

- Much more reliable than PPD skin test
- OIE standard for bTB diagnosis
- Good correlation with other IFN-γ assay
- Provide antigens for sensitization
- Specimen : Stimulated plasma
- Assay time : 90 minutes
- Concordance rate: 95.9% vs. Commercial ELISA B

Sample preparation



Quick Procedure

1. Add 50 µl of prepared enzyme conjugate to each well
2. Add 50 µl of controls and each of prepared samples
   (Bovine PPD stimulated plasma, Avian PPD stimulated plasma, PBS stimulated plasma) to each well
3. Incubate the wells at 37°C for 1 hour
4. Wash the wells 5 times
5. Add 100 µl of substrate to each well
6. Incubate the wells for 30 minutes at room temperature(18~25°C) in the dark
7. Add 100 µl of stopping solution to each well
8. Measure the optical density (OD) at 450nm with reference wavelength at 620nm
9. Calculate the OD value (PPD B - PBS) and OD value (PPD B - PPD A)

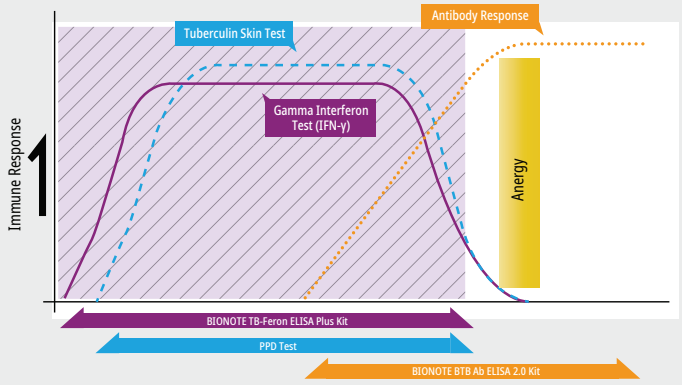
Field benefits of the IFN-γ assay

- Animals retested as often as required (no interference with the immune status of animal)
- Double handing of cattle avoided
- Better sensitivity compared to skin test
- Reduced need for comparative intradermal test since both avian and bovine PPDs are used

Lab benefits of the IFN-γ assay

- Results obtained within 24 hours
- A lab test is subject to quality control, standard procedures and objective interpretation
- Suitably adapted to epidemiological characteristics of the territory

Immune development of Bovine tuberculosis



BIONOTE TB-Feron ELISA Plus detects early to mid stage of bTB-affected cattle by cellular immunity measurement

Performance

1. Comparative study with other IFN test

		BIONOTE TB-Feron ELISA Plus		Total
		(-)	(+)	
Commercial ELISA B	(-)	32	1	33
	(+)	2	38	40
Total		34	39	73

Correlation	95.9%	70/73
Sensitivity	95%	38/40
Specificity	97%	32/33

2. Comparative study with previous TB feron ELISA

		BIONOTE TB-Feron ELISA Plus		Total
		(-)	(+)	
Previous TB feron ELISA	(-)	34	2	36
	(+)	0	37	37
Total		34	39	73

Correlation	97.3%	71/73
Sensitivity	100%	37/37
Specificity	94.4%	34/36

Ordering Information

Cat. No.	Description	Type	Pack ingsize
EG3802PO	TB-Feron ELISA Plus	Microplate	960 Wells/Kit (300 tests)

BTB Ab ELISA 2.0

Mycobacterium bovis antibody

Bovine tuberculosis is a chronic infectious disease caused by Mycobacterium bovis. Bovine tuberculosis infection is usually diagnosed in the live animal on the basis of delayed hypersensitivity reactions. Subclinical infection is common and clinical signs are non-specific in many cases. A sensitive and accurate diagnostic tool is required because purified protein derivative (PPD) tests have been known to have 65.6% sensitivity (Wood et al.,Vet. Microbiol, 40:125-135. 1994) and other mycobacterium infection (eg; M.avium) should be distinguished with this method. The MPB 70 protein has been revealed to be a highly species specific protein secreted by Mycobacterium bovis. BIONOTE BTB Ab ELISA 2.0 kit has been developed using MPB70 protein in an Enzyme Linked Immunosorbent Assay method. The serological diagnostic test is suitable for massive screening of bovine tuberculosis to detect mid to late (anergy) state cattle.

Indications

- Search out BTB carrier
- Screening for test and slaughter government policy
- First step for massive screening instead of PPD in short-handed situation
- Combine with PPD or IFN-γ assay in eradication system

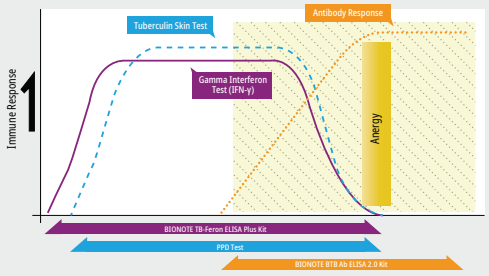
Special Features

- No cross reaction against other mycobacterium species (M. avium)
- Quantitative detection of M. bovis antibody
- The world's first reliable BTB Ab ELISA for serological diagnosis
- Reading time: 75 minutes
- Specimen: Serum
- Sensitivity: 88.1% vs. PPD test
- Specificity: 99.2% vs. PPD test

Quick Procedure

1. Prepare BTB antigen coated test plate
2. Add 50 µl of controls and sample to wells
3. Add 50 µl of M. bovis antigen-HRP to each well
4. Incubate plate for 60 minutes at 37°C
5. Wash plate 6 times
6. Add 100 µl of mixed substrate solution (Ready to use) to each well and incubate for 15 minutes at room temperature
7. Add 100 µl of stopping solution to each well
8. Measure the optical density (OD) at 450nm with reference wavelength at 620nm
9. S/P value=[(OD $_{sample}$-mean OD $_{NC}$)/(mean OD $_{PC}$-mean OD $_{NC}$)

Immune development of bovine tuberculosis



BIONOTE BTB Ab ELISA 2.0 detects mid to late (anergy) stage of TB affected cattle by antibody titer check againt TB (Laboratory method for antibody check)
Generally, M.bovis Ab is detectable 90 to 100 days after infection

Ordering Information

Cat. No.	Description	Type	Packing size
EB4304PO	BTB Ab ELISA 2.0	Microplate	480 Wells/Kit

BoviD-5 Ag

Bovine Rota, Corona, E.coli K99, Cryptosporidium, Giardia antigen

Newborn calves are susceptible to neonatal calf diarrhea especially during their first 3~4 weeks of life. Bacteria, viruses and parasites, by attacking the lining of the calf`s intestine, give rise to diarrhea. It is one of the major financial damage factors in bovine farms, because once infected this decreases the absorption of essential nutrients from milk and leads to weight loss and dehydration. Generally, calf diarrhea is considered as an emergency situation that requires swift diagnosis and rehydration. One of the key features of a rapid test kit is the "rapidity" of the test result, thus BoviD-5 Ag is an ideal test in these situations.

Indications

- For differential diagnosis of calf diarrhea
- Calf diarrhea etiologic agent monitoring in field
- For immediate treatment required cases

	Sensitivity	Specificity	
Cryptosporidium	98.2%	99.0%	vs.PCR
Rotavirus	99.0%	98.0%	
Coronavirus	98.4%	98.0%	
E.coli K 99	97.8%	99.0%	
Giardia	92.1%	99.1%	vs.ELISA

Special Features

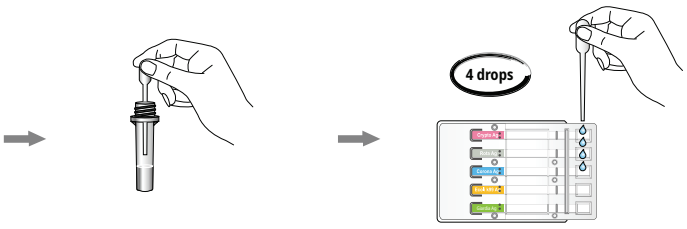
- Useful tool for ruling out the cause of calf diarrhea
- Specimen : Diarrheal feces
- No cross reaction with other etiologic agents of calf diarrhea
- Sensitivity and Specificity : see table

	BoviD-5	BoviD-4	D4 Diarrhea
Species	Bovine	Bovine	multi-species
Cryptosporidium	O	O	O
Rotavirus	O	O	O
Coronavirus	O	O	X
E.coli K 99	O	O	O
Giardia	O	X	O

Test Procedures

1 Collect the samples from feces using the swab.

2 Insert the swab into the sample tube containing assay diluent, and mix the swab until the sample has been dissolved into the assay diluent. Squeeze the swab against the well of tube and then discard it.

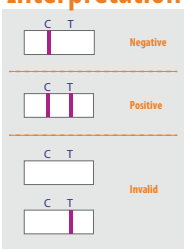


4 Wait 30 seconds for sedimentation and take the supernatant with disposable dropper provided.

5 Add 4 drops into the sample hole with disposable dropper.

5~10min.

Interpretation



Ordering Information

Cat. No.	Description	Type	Packing size
RC1302DD	Rapid BoviD-5 Ag	Device	1 Test x 10/Kit

BoviD-6 Ag

Bovine Rota, Corona, E.coli K99, K17, Cryptosporidium, Giardia, Clostridium perfringens antigen

Newborn calves are susceptible to neonatal calf diarrhea especially during their first 3~4 weeks of life. Bacteria, viruses and parasites, by attacking the lining of the calf`s intestine, give rise to diarrhea. It is one of the major financial damage factors in bovine farms, because once infected this decreases the absorption of essential nutrients from milk and leads to weight loss and dehydration. Generally, calf diarrhea is considered as an emergency situation that requires swift diagnosis and rehydration. One of the key features of a rapid test kit is the "rapidity" of the test result, thus BoviD-5 Ag is an ideal test in these situations.

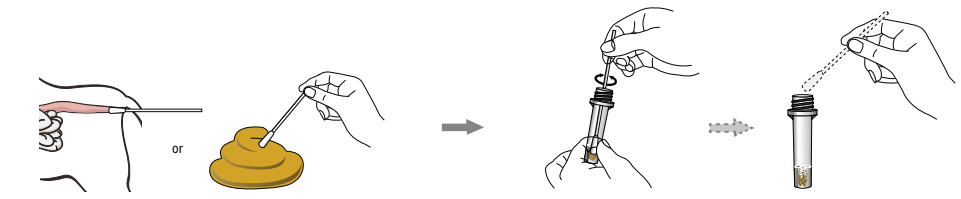
Indications

- For differential diagnosis of calf diarrhea
- Calf diarrhea etiologic agent monitoring in field
- For immediate treatment required cases

Special Features

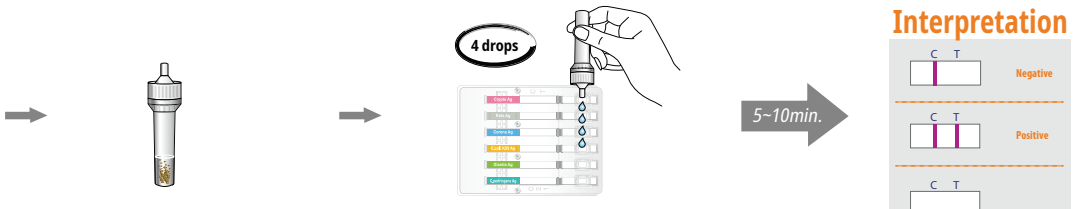
- Useful tool for ruling out the cause of calf diarrhea
- Specimen : Diarrheal feces
- No cross reaction with other etiologic agents of calf diarrhea

Test Procedures



1 Collect the samples from feces using the swab.

2 Insert the swab into the sample tube containing assay diluent, and mix the swab until the sample has been dissolved into the assay diluent. Squeeze the swab against the well of tube and then discard it.



4 Place the filter cap on the tube and make sure it is tightly sealed.

5 Add 4 drops into the sample hole with disposable dropper.

Ordering Information

Cat. No.	Description	Type	Packing size
RC1306DD	Rapid BoviD-6 Ag	Device	1 Test x 10/Kit

GS.Brucella Ab

Goat & Sheep Brucellosis antibody

Ovine and caprine brucellosis is commonly caused by B.melitensis. Humans may be infected by contact with animals or animal products contaminated with these bacteria. Available serological tests include the Rose Bengal, ELISA, complement fixation test and tube agglutination test. However, these tests require sample preparation or specialized person and equipment. The Anigen GS. Brucella Ab Test Kit provides swift and accurate field test results.

Indications

- Diagnosis of ovine and caprine brucellosis in field
- Screening for test and slaughter government policy
- Massive screening for animal import & export

Special Features

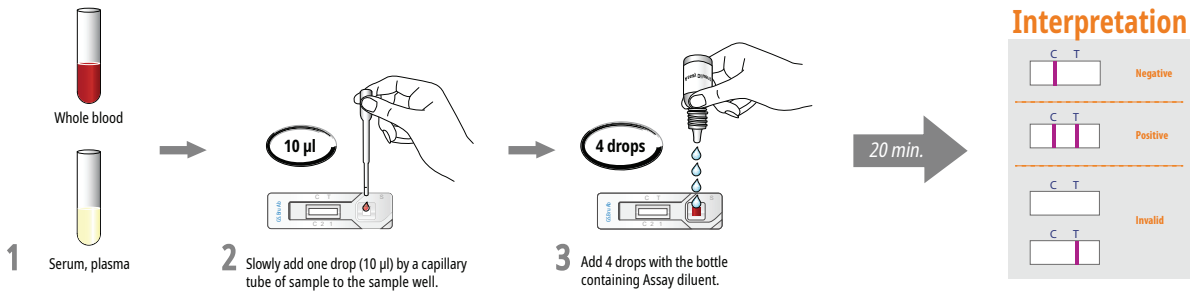
- Detection of antibodies against Brucella melintensis
- More reliable result than rose bengal test
- High correlation with ELISA test
- World's first commercialized rapid test kit for detection of GS. brucellosis
- Specimen: Blood, Plasma, Serum
- Sensitivity: 98% vs. ELISA
- Specificity: 100% vs. ELISA

Advantages of Anigen Rapid GS.Brucella Ab test

	RBT	MRT	Anigen
Specimen	Serum only	Milk only	Whole blood, Serum, Plasma
Use in field	No	Yes	Yes
Time	One day	1 hour	20 minutes
Cross reaction	Cross reaction with Yersinia enterocolitica		No cross reaction

* RBT : Rose Bengal Test
* MRT : Milk Ring Test

Test Procedures



Ordering Information

Cat. No.	Description	Type	Packing size
RB2306DD	Rapid GS.brucella Ab	Device	1 Test x 10/Kit

MERS-CoV Ag

Middle East Respiratory Symdrome antigen

Middle East Respiratory Syndrome (MERS) is viral respiratory illness first reported in Saudi Arabia in 2012. It is caused by a coronavirus called MERS-CoV. The source of MERS-CoV is not yet fully understood. Although not confirmed, camel is are a probable source of infection transfer to humans. The polymerase chain reaction (PCR) test is used to detect and diagnose infectious disease and can confirm positive cases of MERS-CoV in camel. However, PCR test requires specialized instruments and laboratory personnel. BIONOTE® Rapid MERS-CoV Ag test kit has been developed to provide fast and reliable test results of MERS-CoV antigen.

Indications

- Field monitoring of MERS-CoV infection in dromedary camel

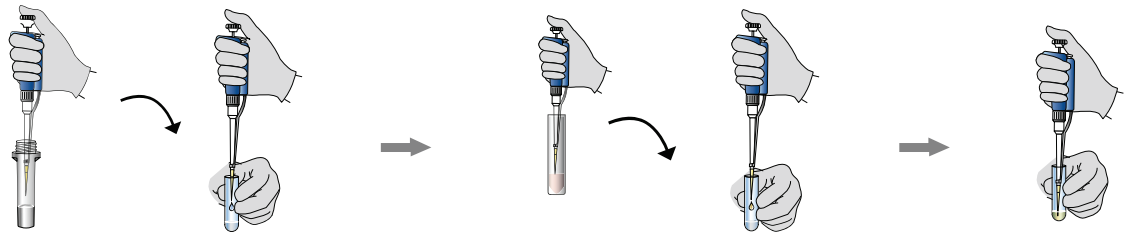
Special Features

- Detection of MERS-CoV Antigen
- High correlation with RT-PCR
- Specimen: nasal swabs of dromedary camels
- Sensitivity: 93.9% vs. RT-PCR
- Specificity: 99.6% vs. RT-PCR

Evaluation Result

BIONOTE® Rapid MERS-CoV Ag Test	Reference method (RT-PCR)		Performance Characteristics
	Positive	Negative	
Positive	62	2	Sensitivity (95%CI) 93.94%(85.20% to 98.32%)
Negative	4	521	Specificity (95%CI) 99.62%(98.63% to 99.95%)
Total	66	523	

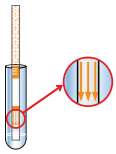
Test Procedures



1 Dispense 100 µl of assay diluents into a test tube.

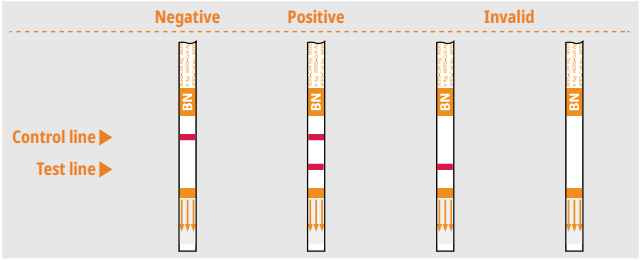
2 Add 100 µl of extracted sample into the same.

3 Mix well.



4 Place the test strip into the test tube.

10~15 min.



Ordering Information

Cat. No.	Description	Type	Packing size
RG1805SG	Rapid MERS-CoV Ag	Strip	1 Test x 25/Kit

Toxoplasma Ab for Farm

Toxoplasma gondii antibody

Toxoplasmosis is a protozoa disease caused by Toxoplasma *gondii*. The pathogen infects most genera of warm-blooded animals, including humans, but the primary host is the cat family. Infection occurs by eating infected meat, particularly swine products or ingesting water, soil, or food that has come into contact with infected animals' fecal matter. The Anigen Rapid Toxoplasma Ab Test Kit is a chromatographic immunoassay for the qualitative detection of antibody against Toxoplasma *gondii* in serum, plasma or whole blood.

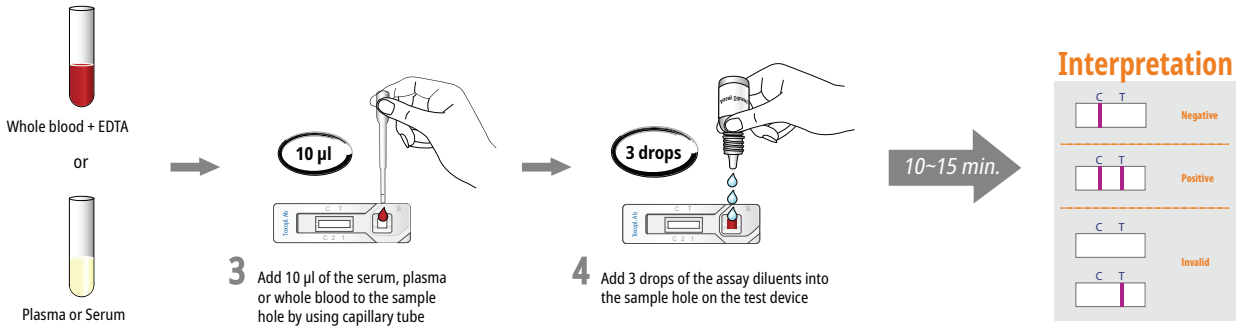
Indications

- Detection of Toxoplasma *gondii* antibody
- Field monitoring of Toxoplasma infection
- Sheep and Livestock animal surveillance

Special Features

- One-step testing procedure
- No cross-reaction with other microorganism sera.
- Applicable to various species
- Quick test in 10 minutes
- High sensitivity and specificity
- Sensitivity : 99.9% vs. ELISA
- Specificity : 98.7% vs. ELISA

Test Procedures



3 Add 10 µl of the serum, plasma or whole blood to the sample hole by using capillary tube

4 Add 3 drops of the assay diluents into the sample hole on the test device

Ordering Information

Cat. No.	Description	Type	Packing size
RB2805DD	Rapid Toxoplasma Ab for Farm	Device	1 Test x 10/Kit

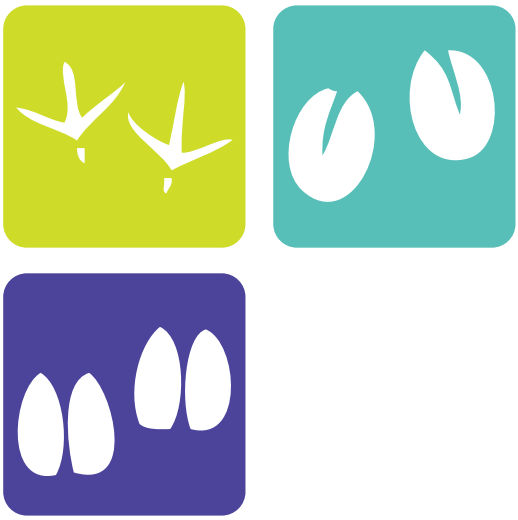
Current available product list

Rapid

Species	Product	Cat. No.	Packing size	Description	Sample
	Rapid Bovi D-4 Ag Test Kit	RC1301DD	1Test x 10/Kit	Detection of Bovine *Cryptosporidium*, Rotavirus, Coronavirus, *E. coli* (K99) antigen	Feces
	Rapid Bovi D-5 Ag Test Kit	RC1302DD	1Test x 10/Kit	Detection of Bovine *Cryptosporidium*, Rotavirus, Coronavirus, *E. coli* (K99), *Giardia* antigen	Feces
	Rapid BoviD-6 Ag Test Kit	RC1306DD	1Test x 10/Kit	Detection of Bovine *Cryptosporidium*, Rotavirus, Coronavirus, *E. coli* (K99, F17), *Giardia* + *C. perfringens* alpha toxin	Feces
	Rapid Rota Ag Test Kit	RG1803DD	1Test x 10/Kit	Detection of Rotavirus antigen	Feces
	Rapid B.Brucella Ab Test Kit	RB2301DD	1Test x 10/Kit	Detection of Brucella abortus antibody in cattle	Whole blood, plasma or serum
	Rapid FMD NSP Ab Test Kit	RB2802DD	1Test x 10/Kit	Detection of Foot and Mouth Disease Virus antibody field infected	Whole blood, plasma or serum
	Rapid GS.Brucella Ab Test Kit	RB2306DD	1Test x 10/Kit	Detection of Brucella antibody in sheep and goat	Whole blood, plasma, serum or raw milk
	Rapid Toxoplasma Ab Test Kit (For farm animals)	RB2805DD	1Test x 10/Kit	Detection of Toxoplasma *gondii* antibody	Whole blood, plasma or serum
	Rapid MERS-CoV Ag Test Kit	RG1805SG	1Test x 25/Kit	Detection of Middle East Respiratory Syndrome Coronavirus antigen	Nasal swab
	Rapid Camel Brucella Ab Test Kit	RB2309SG	1Test x 25/Kit	Detection of Brucella antibody in camel	Whole blood, plasma, serum or raw milk
	Rapid PED Ag Test Kit	RG1401DD	1Test x 10/Kit	Detection of Porcine Epidemic Diarrhea virus antigen	Feces
	Rapid TGE/PED Ag Test Kit	RC1403DD	1Test x 10/Kit	Detection of TGE and PED virus antigen	Feces
	Rapid PED/TGE/Rota Ag Test Kit	RC1406DD	1Test x 10/Kit	Detection of PED, TGE and Rotavirus antigen	Feces
	Rapid Rota Ag Test Kit	RG1803DD	1Test x 10/Kit	Detection of Rotavirus antigen	Feces
	Rapid FMD NSP Ab Test Kit	RB2802DD	1Test x 10/Kit	Detection of Foot and Mouth Disease virus antibody field infected	Whole blood, plasma or serum
	Rapid AIV Ag Test Kit	RG1501MH	10Test x 3/Kit	Detection of Avian Influenza type A virus antigen	Feces or Trachea swab
	Rapid NDV Ag Test Kit	RG1503DD	1Test x 10/Kit	Detection of Newcastle Disease virus antigen	Feces or Trachea swab
	Rapid IBDV Ag Test Kit	RG1504DD	1Test x 10/Kit	Detection of Infectious Bursal Disease virus antigen	Bursa of Fabricious, Feces
	Rapid IBV Ag Test Kit	RG1513DD	1Test x 10/Kit	Detection of Infectious Bronchitis virus antigen	Feces or Trachea swab

ELISA

Species	Product	Cat. No.	Packing size	Description	Sample
	B.Brucella Ab ELISA 2.0	EB4301PO	480 Wells/Kit	Detection of Brucella abortus antibody	Serum, plasma, raw milk
	Brucella Ab C-ELISA	EB4305PO	480 Wells/Kit	Detection of Brucellosis antibody C-ELISA	Serum, plasma
	BTB Ab ELISA 2.0	EB4304PO	480 Wells/Kit	Detection of Mycobacterium bovis antibody	Serum, plasma
	FMD NSP Ab ELISA 2.0	EB4804PO	480 Wells/Kit	Detection of Foot and Mouth Disease Virus antibody field infected	Serum, plasma
	FMD Type O Ab ELISA	EB4803PO	480 Wells/Kit	Detection of Foot and mouth disease (FMD) SP Antibody	Serum, plasma
	TB-Feron ELISA Plus	EG3802PO	150 Tests/Kit	Detection of Gamma-interferon in bovine tuberculosis	Plasma
	CSFV Ab ELISA	EB4413PO	480 Wells/Kit	Detection of Classical Swine Fever Virus antibody	Serum, plasma
	PRRS Ab ELISA 4.0	EB4404PO	480 Wells/Kit	Detection of Porcine Reproductive and Respiratory Syndrome Virus antibody	Serum, plasma
	PED IgA Ab ELISA	EB4410PO	480 Wells/Kit	Detection of IgA for Porcine Epidemic Diarrhea Virus	Colostrum
	AIV Ab ELISA	EB4502PO	480 Wells/Kit	Detection of AIV type A antibody	Serum



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