

For Consulting of Pig Farm

AniGen PRRS Ab ELISA 4.0




**Believe
and
Use**



What is Porcine Reproductive and Respiratory Syndrome?

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 the PRRS virus, a virus currently classified as a member of the order Nidovirales, family Arteriviridae, genus Arterivirus. The primary target cell of the virus is the alveolar macrophage of the pig. Two major antigenic types of the virus exist, the European and the American type. The virus is primarily transmitted via infected pigs but also by feces, urine, semen and fomites.

Diagnosis of PRRS

■ Identification of the agent

- Virological diagnosis PRRS virus infection is difficult; the virus can be isolated from tissues such as serum, ascetic fluids, or organ samples, such as lungs, tonsil, lymph nodes and spleen of affected pigs.
- The virus is identified and characterized by immunostaining with specific antisera.
- Additional techniques, such as immunohistochemistry and in situ hybridization on fixed tissue and reverse-transcription polymerase chain reaction, have been developed for laboratory confirmation of PRRS virus infection

■ Serological tests

- The immunoperoxidase monolayer assay uses alveolar macrophages and the indirect immunofluorescence assay (IFA) uses MARC-145 cells that are usually infected using either the European or the American antigenic type of the virus, respectively.
- Commercial or in-house enzyme linked immunosorbent assays (ELISA) are now often used.

Introduction of AniGen PRRS Ab ELISA 4.0

- **Principle:** Enzyme Linked Immunosorbent assay (ELISA)
- **Application:** Detection of Porcine reproductive and respiratory syndrome virus antibody (European and American strain)
- **Specimen:** Swine serum
- **Total Testing Time:** 75 minutes
- **Shelf life:** 12 months
- **Storage:** 2~8°C
- **Sensitivity:** 95.7 Vs IFA
- **Specificity:** 90.3 Vs IFA



No more Singleton Pig
High Sensitivity 95.7% Vs IFA
High Specificity 90.3% Vs IFA

Simple Test Procedure



Performance Study

AniGen PRRS Ab ELISA 4.0 has reliable study data. Believe and Use.
 It's your choice. Think about below data.

1. Study on PRRS standard antiserum from the National Veterinary Services Laboratories

Standard Sera	IFA		AniGen PRRS Ab ELISA			Company A		
	Titer	Results	OD	S/P	Results	OD	S/P	Results
Standard antiserum (European N strain)	>256	Positive	3.0060	4.8	Positive	0.8830	2.1	Positive
Standard antiserum (US strain)	>256	Positive	2.2350	3.5	Positive	1.0270	2.4	Positive
Negative control serum	<20	Negative	0.1550	0.0	Negative	0.1440	0.0	Negative

* If the S/P ratio is greater than or equal to 0.4, the sample is regarded as positive for PRRSV antibodies.

- AniGen PRRS Ab ELISA 4.0 can detect standard antiserum both European N stain and US stain.

2. Sensitivity and Specificity in Korea

S/P ratio	IFA 1:32 over (328samples)	IFA 1:16 below (119samples)	Sensitivity	Specificity	coincidence
	AniGen ELISA Positive	AniGen ELISA Negative			
0.6	307	109	93.6	91.6	93.1
0.5	315	98	96.0	82.4	92.4
0.4	314	108	95.7	90.8	94.4
0.3	315	98	96.0	82.4	92.4
0.2	320	85	97.6	71.4	90.6

- AniGen PRRS Ab ELISA 4.0 has *high Sensitivity 95.7% and high Specificity 90.3%*

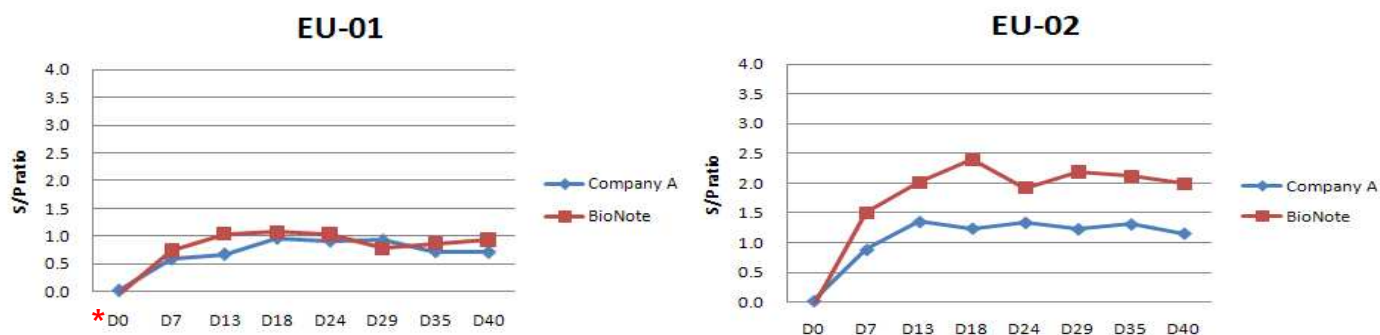
3. Cross reaction

Antiserum	AniGen PRRS Ab ELISA Kit 4.0	
	S/P	Results
Swine Influenza Virus H1N1	0.0	Negative
Swine Influenza Virus H3N2(NC)	0.1	Negative
Swine Influenza Virus H3N2(TX)	0.1	Negative
BVD virus, type 1	0.0	Negative
BVD virus, type 2	0.0	Negative
BVD multivalent	0.0	Negative
Pseudorabies virus	0.1	Negative
Porcine circovirus type 2a	0.1	Negative
Porcine circovirus type 2b	0.0	Negative

- AniGen PRRS Ab ELISA 4.0 has *No Cross reaction with other swine disease antiserum.*

4. Study on seroconversion after challenge of PRRSV

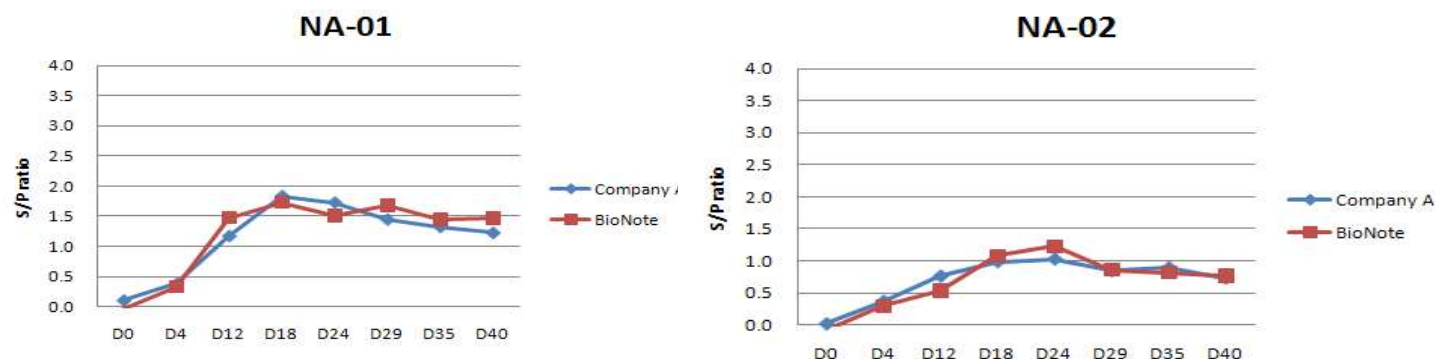
1) EU strain: Antibody response after inoculation with PRRS European strain (Pig No. EU-01, EU-02)



*D: Day Post Inoculation

- AniGen PRRS AB ELISA can detect PRRS Ab from DPI 7 with PRRS European strain.

2) NA strain: Antibody response after inoculation with PRRS North American strain (Pig No. NA-01, NA-02)



- AniGen PRRS AB ELISA can detect PRRS Ab from DPI 12 with North American strain.

5. Study according to strain type

1) PRRS European strain detection

	Infected virus	Testing No.	BioNote		Kit A	
			%	Number	%	Number
Sensitivity	EU-1	10	100.0	10	90.0	9
	EU-2	6	100.0	6	100.0	6
	EU-3	9	100.0	9	100.0	9
	EU-4	8	87.5	7	100.0	8
	EU-5	8	100.0	8	75.0	6
	EU-6	28	64.3	18	75.0	21
	EU-7	29	100.0	29	96.0	28
Specificity	Farm A*	14	93.0	13	93.0	13
	Farm B*	17	100.0	17	23.5	4

*Singleton reactor

OIE Reference Lab data

2) PRRS Korean strain detection

Inoculation strain		DPI 3 weeks		
		IFA	AniGen PRRS Ab ELISA	
			S/P	Results
VR2332 like virus	No.1	1:64	1.5	Positive
	No.2	1:64	1.4	Positive
Blue-ear disease like virus		1:64	1.0	Positive
NA mutant (ORF5 mutant, Prevalent in Korea)	No.1	1:64	1.2	Positive
	No.2	1:64	1.3	Positive
EU Lelystad like virus		1:64	0.8	Positive

- AniGen PRRS AB ELISA can detect antibodies against European strain 1,2,3,4,5,6,7, North American strain and Korean strain

