

PRRSV diagnosis in China

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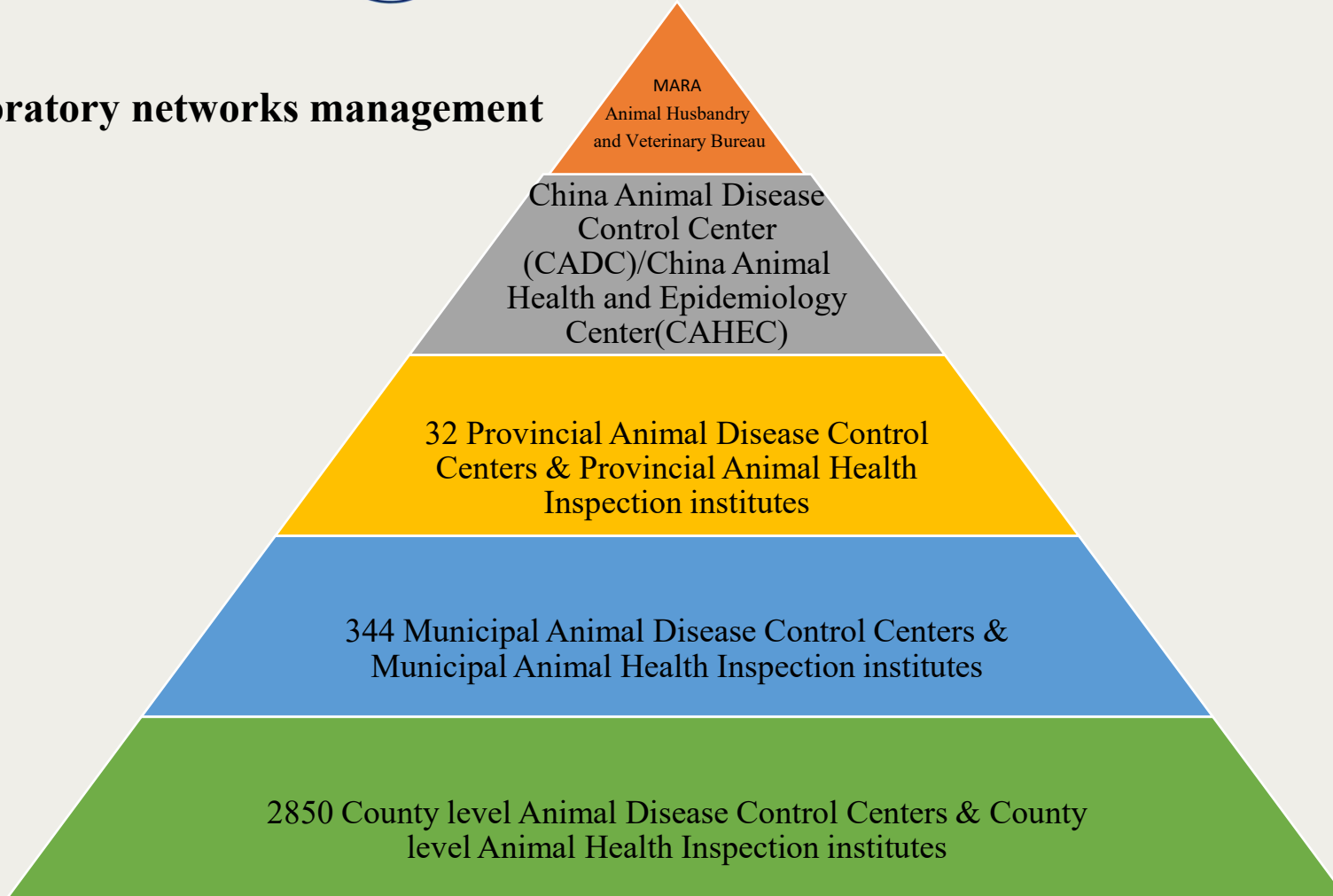


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中国动物疫病预防控制中心
China Animal Disease Control Center

- National Laboratory networks management**



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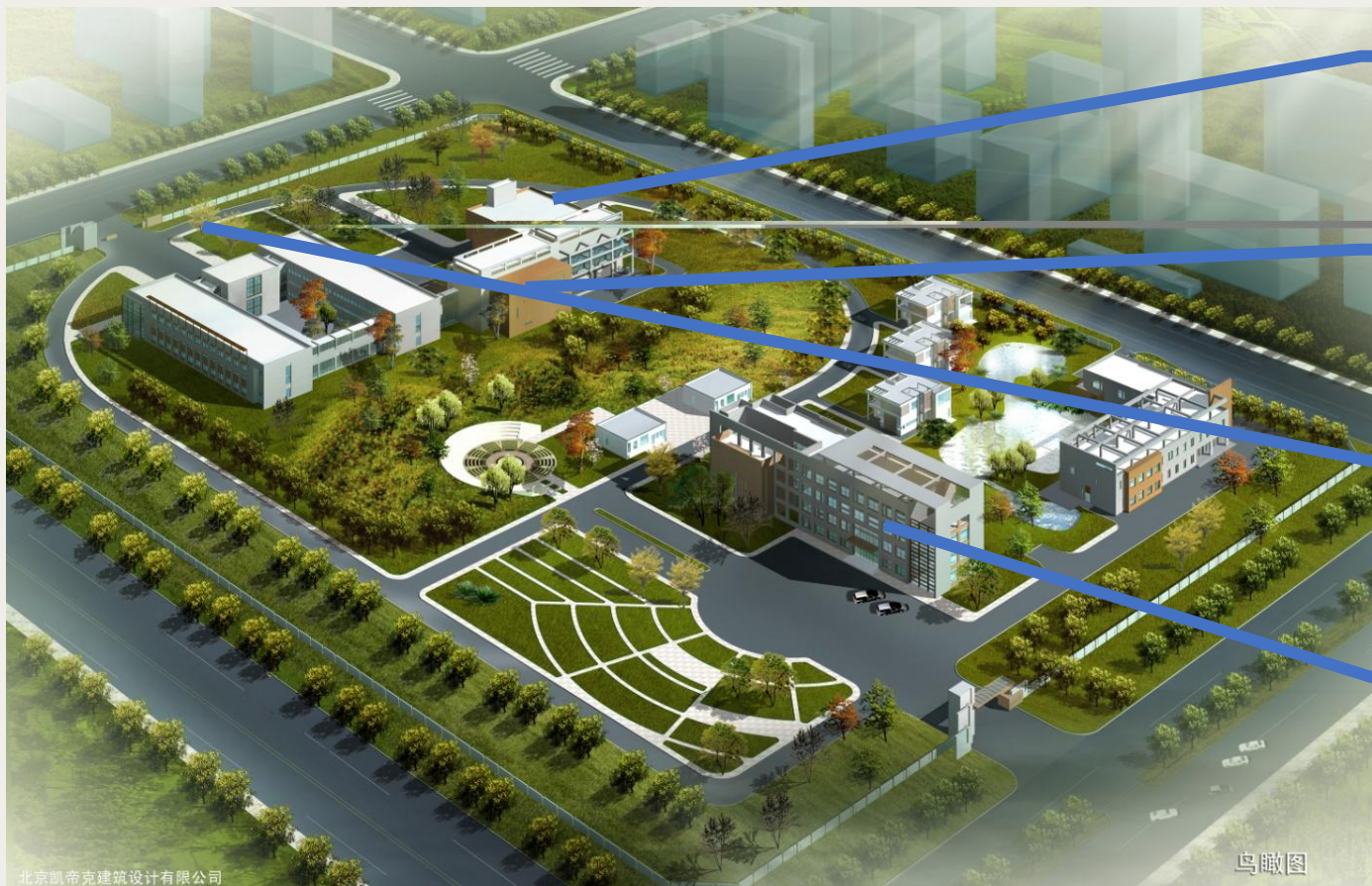
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China Animal Disease Control Center



- ❖ Located in DaXing District, Biomedical Base, Daxing Base of CADC covers an area of 100 000 m², 20 000m² building areas, cost 300 millions Yuan.



Animal product
inspection Center

(Animal) biosafety
level 3 laboratories

National Veterinary
Diagnostic
Center/PRRSV RL

Epidemic
Information Building

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鸟瞰图



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中国动物疫病预防控制中心
China Animal Disease Control Center

- National Veterinary Diagnostic Center (NVDC) was founded in July 1996, affiliated to China Animal Disease Control Centre (CADC), Ministry of Agriculture and Rural Affairs (MARA). NVDC is a national veterinary diagnostic laboratory in China.
- PRRSV Reference Laboratory was designed in 2012.
- Since 2000, NVDC/PRRS RL has been accredited by China National Accreditation Service for conformity Assessment(CNAS), which is equivalent to ISO17025, with the capability to carry out diagnosis for 43 animal and zoonotic diseases, 80 diagnostic tests.



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No.	Disease	Test	
		No.	Name
1	Multiple species Diseases		
1.1	Foot-and-mouth disease	1	Virus infection related antigen agar gel immunodiffusion (VIA-AGID)
		2	Liquid blocking enzyme-linked immunosorbent assay (LB-ELISA)
		3	Reverse transcription polymerase chain reaction (RT-PCR)
		4	Nonstructural protein monoclonal antibody blocking enzyme-linked immunosorbent assay (Nsp-ELISA)
		5	Positive indirect agglutination test (PIAT)
1.2	Aujeszky's disease (pseudorabies)	6	Immunohistochemistry (pig)
		7	E glucose enzyme-linked immunosorbent assay (gE) (pig)
		8	Polymerase chain reaction (PCR)
		9	Enzyme-linked immunosorbent assay (gB) (pig)
1.3	Toxoplasmosis	10	Enzyme-linked immunosorbent assay (pig)
		11	Polymerase chain reaction (PCR)
1.4	Animal chlamydiosis	12	Indirect hemagglutination test
1.5	Epidemic encephalitis B	13	Latex agglutination test
		14	Reverse transcription polymerase chain reaction (RT-PCR)
1.6	Brucellosis	15	Rose-bengal plate agglutination test
		16	Tube agglutination test
		17	Polymerase chain reaction (PCR)

No.	Disease	Test	
		No.	Name
2	Porcine		
2.1	Classical swine fever (hog cholera)	18	Reverse transcription polymerase chain reaction (RT-PCR)
		19	Swine fever virus antigen enzyme-linked immunosorbent assay
		20	Swine fever virus antibody enzyme-linked immunosorbent assay
		21	Positive indirect agglutination test (PIAT)
2.2	Porcine reproductive and respiratory syndrome	22	Indirect enzyme-linked immunosorbent assay
		23	Virus isolation and identification
		24	Reverse transcription polymerase chain reaction (RT-PCR)
		25	Real-time reverse transcription polymerase chain reaction (real-time RT-PCR)
		26	Immunohistochemistry
2.3	Porcine parvovirus infection	27	Enzyme-linked immunosorbent assay
		28	Polymerase chain reaction (PCR)
2.4	Swine influenza	29	Reverse transcription polymerase chain reaction (RT-PCR)
2.5	Porcine circovirus disease	30	Polymerase chain reaction (PCR)
		31	Porcine circovirus type II virus antibody enzyme-linked immunosorbent assay
2.6	Swine actinobacillus pleuropneumonia	32	Enzyme-linked immunosorbent assay



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No.	Disease	Test	
		No.	Name
3	Avian		
3.1	Newcastle disease	33	Micro-hemagglutination inhibition test
		34	Reverse transcription polymerase chain reaction (RT-PCR)
3.2	Avian influenza	35	Agar gel immunodiffusion (AGID)
		36	Haemagglutination and haemagglutination inhibition tests (HA/HI)
		37	Reverse transcription polymerase chain reaction (RT-PCR)
3.3	Mareks disease	38	Pathological method
3.4	Avian leukosis	39	Enzyme-linked immunosorbent assay for avian leukosis virus p27 antigen
		40	A subgroup, B subgroup and J subgroup avian leukemia antibody enzyme linked immunosorbent assay
		41	Pathological method
3.5	Avian encephalomyelitis	42	Reverse transcription polymerase chain reaction (RT-PCR)
3.6	Chicken viral arthritis (avian reovirus infection)	43	Avian reovirus antibody enzyme-linked immunosorbent assay
3.7	Avian infectious bronchitis	44	Reverse transcription polymerase chain reaction (RT-PCR)
3.8	Chicken infectious anemia	45	Polymerase chain reaction (PCR)
		46	Enzyme-linked immunosorbent assay
3.9	Avian infectious laryngotracheitis	47	Polymerase chain reaction (PCR)
3.10	Avian reticuloendotheliosis	48	Pathological method
		49	Enzyme-linked immunosorbent assay
3.11	Avian mycoplasmosis	50	Mycoplasma synoviae plate agglutination test (MS-Ab)
		51	Mycoplasma gallisepticum plate agglutination test (MG-Ab)
3.12	Fowl typhoid and pullorum disease	52	Whole blood plate agglutination test
3.13	Egg drop syndrome	53	Polymerase chain reaction (PCR)

No.	Disease	Test	
		No.	Name
4	Bovinae		
4.1	Bovine viral diarrhea/mucosal disease	54	Reverse transcription polymerase chain reaction (RT-PCR)
5	Equidae		
5.1	Equine infectious anemia	55	Agar gel immunodiffusion test (AGID)
6	Canidae & Felidae		
6.1	Canine parvovirus disease	56	Haemagglutination inhibition test (HI)
		57	Immunogold labeling technique
		58	Polymerase chain reaction (PCR)
6.2	Canine distemper	59	Immunoassay
		60	Immunohistochemistry
		61	Reverse transcription polymerase chain reaction (RT-PCR)
6.3	Infectious canine hepatitis /Canine Viral rhinotracheitis	62	Haemagglutination inhibition test (HI)
		63	Immunohistochemistry
		64	Polymerase chain reaction (PCR)
6.4	Rabies virus	65	Enzyme-linked immunosorbent assay

7	Bacteriae		
7.1	Colibacillosis	66	Colibacillosis diagnosis technology
7.2	Salmonellosis	67	Salmonellosis diagnosis technology
7.3	Staphylococcosis	68	Staphylococcosis diagnosis technology
7.4	Streptococciosis	69	Streptococciosis diagnosis technology
7.5	Swine pasteurellosis	70	Antigen isolation and identification
7.6	Fowl cholera (avian pasteurellosis)	71	Antigen isolation and identification
7.7	Avian aspergillosis	72	Pathologic technology



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- PRRS diagnosis sop

Manual of Diagnostic Tests and Vaccines for Terrestrial Animals Of WOAH



B. DIAGNOSTIC TECHNIQUES

Table 1. Test methods available for diagnosis of porcine reproductive and respiratory syndrome and their purpose

Method	Purpose					
	Population freedom from infection	Individual animal freedom from infection prior to movement	Contribute to eradication policies	Confirmation of clinical cases	Prevalence of infection – surveillance	Immune status in individual animals or populations post-vaccination
Detection of the agent ^(a)						
Virus isolation	–	++	–	+++	–	–
Conventional RT-PCR	+++	+++	+++	+++	++	–
Real-time RT-PCR	+++	+++	+++	+++	++	–
IHC	–	–	–	++	–	–
ISH	–	–	–	++	–	–
Detection of immune response ^(b)						
ELISA	+++	++	+++	++	+++	++
IPMA	++	++	++	+	++	+++
IFA	++	++	++	+	++	+++

sease

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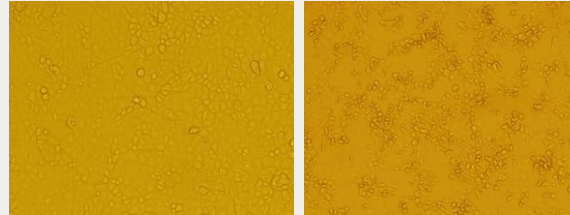
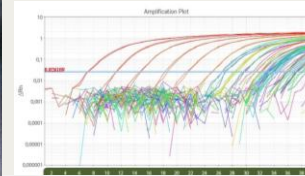
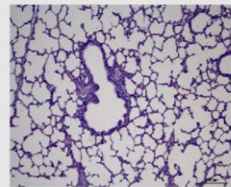
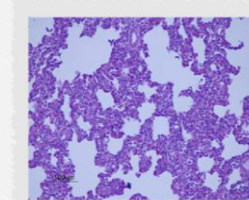


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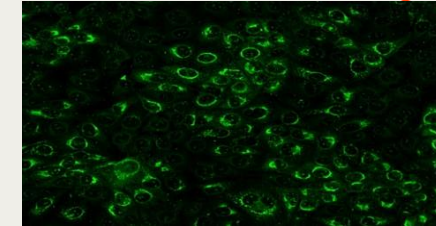
Establishment and application of PRRSV reference laboratory diagnostic test

Diagnostics types	Testing technologies
Antigen diagnostics	Virus isolation and culture
	nucleic acid testing (NAT) Real time RT-PCR kits
	Pathological diagnosis
	Whole genome sequencing
Antibody diagnostics	ELISA/Magnetic particle chemiluminescence ELISA
	Indirect immunofluorescence testing
	Neutralizing antibody testing

Antigen diagnostics



Antibody diagnostics



Development PRRSV antigen and antibody detection kits to provide technical support for its rapid and accurate diagnosis.

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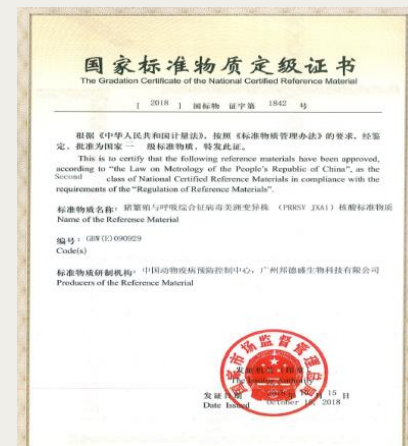


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Establishment and application of PRRSV reference laboratory diagnostic test



Development PRRSV standard materials to provide support for the national
veterinary laboratory proficiency testing program

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Challenge and solution

- ✓ The Ministry of Agriculture and Rural Affairs has formulated the “National Animal Disease Monitoring Plan (2026 - 2030)” and the “National Animal Disease Epidemiological surveillance Plan (2026 - 2030)”.
- ✓ Opinions of the Ministry of Agriculture and Rural Affairs on Promoting the Eradication of Animal Diseases including PRRSV.
- ✓ Guidelines for Evaluation and Management of Animal Disease Eradication in Farms.
- ✓ Technical Rules for Evaluation of Animal Disease Eradication in Farms---including PRV, PRRSV, CSFV, ASFV and FMDV.
- ✓ The development of disease-resistant breeding pigs and new vaccines to promote the prevention, control and eradication of PRRSV.

What can WOAHP do to support?

- WOAHP: We need to enhance the exchange and cooperation of PRRSV prevention and control information within the region.
- WOAHP should provide the experience and technical approaches that have been achieved in eradication countries of PRRSV, to guide the eradication of PRRSV within the region.

Thank you!

Contact information