

Animal diagnostics

PrioCHECK FMDV type-specific kits

Reliable products for the type-specific detection of the foot-and-mouth disease virus (FMDV) types O, A, and Asia 1 in cattle, pigs, sheep, and goats

Benefits

Fast and reliable screening for FMDV serotypes

- Evaluated by the FMD World Reference Laboratory in Pirbright, England
- Results demonstrate excellent reliability
- Detect antibodies against serotypes O, Asia 1, and A
- Can be used with sera from multiple animal species
- The Applied Biosystems™ PrioCHECK™ FMDV Type O Ab Strip Kit is an established test that has been successfully used to support diagnostic testing during outbreaks worldwide
- Applied Biosystems™ PrioCHECK™ FMDV Type A and Asia 1 kits show excellent diagnostic specificity on cattle, sheep, goat, and pig sera
- The Asia 1 kit demonstrated extremely high sensitivity in cattle and sheep (goats not tested). The Type O kit demonstrated extremely high sensitivity in cattle, sheep, and goats (pigs not tested)

Screening and confirmation from one supplier

- Suitable for large-scale screening of unvaccinated herds after an outbreak of FMD
- Can be used as primary screening tests; positive results can be confirmed with an Applied Biosystems™ PrioCHECK™ FMDV NS kit
- The PrioCHECK FMDV Type O kit can also be used to check the efficiency of vaccination (cannot be used to test vaccination with vaccines based on other serotypes)

Performance

The performance of the kits was extensively evaluated on cattle, sheep, goat, and pig sera. Sera were either field samples or derived from infection experiments. More than 200 goat samples, 400 sheep samples, and over 600 swine and cattle samples were tested.

The FMDV A, Asia 1, and O subtypes are detected in all animal species tested: cattle, sheep, pigs, and goats. The PrioCHECK FMDV Type A test shows limited cross-reactivity with Asia 1 strains. The PrioCHECK FMDV Type Asia 1 test also detects several FMDV Type A strains, whereas the PrioCHECK FMDV Type O test is highly type-specific and detects only Type O FMDV strains. The diagnostic specificity of all three PrioCHECK tests is up to 99% or more for all species, and the tests show good sensitivity in the species tested. Therefore, the tests are excellent screening tools for the detection of an FMD outbreak in a herd.

Table 1. PrioCHECK FMDV kit diagnostic metrics across animal types.

Type Asia 1 ¹	Diagnostic specificity (%) ¹	Diagnostic sensitivity (%) ²
Cattle	>99	>90–98
Pigs	>99	not detected (ND)
Sheep	>99	100
Goats	>99	ND

Type A ¹	Diagnostic specificity (%) ¹	Diagnostic sensitivity (%) ²
Cattle	>99	>80–90
Pigs	>99	ND
Sheep	>99	ND
Goats	>99	ND

Type O	Diagnostic specificity (%) ¹	Diagnostic sensitivity (%) ³
Cattle	>99	>99
Pigs	>99	ND
Sheep	>99	>99
Goats	ND	>99

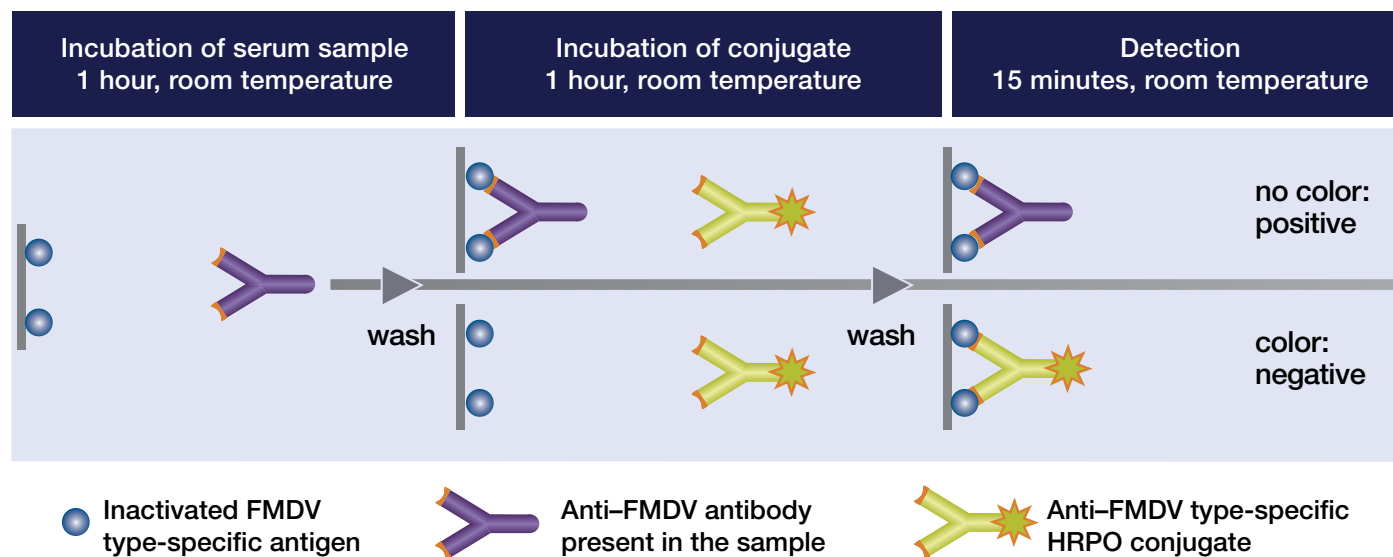
Source

1 NRL Netherlands.

1, 2 Pirbright.

3 Chenard et al. (2003)

Figure 1. Workflow of the incubation and detection process for PrioCHECK FMDV type-specific kits.



Foot-and-mouth disease

FMD is an important economic threat to livestock industries. This highly contagious disease, which can affect all cloven-hoofed animals, is widespread throughout the world. In many countries, the disease is controlled by preventive vaccination. Vaccination is mostly banned in countries that are free of the disease.

The FMD viruses are classified into seven main serotypes. FMDV Type O is the most commonly found serotype, followed by FMDV

Type A. Types Asia 1, A, C, and SAT 1, 2, and 3 generally occur more regionally than FMDV Type O. The existence of many serotypes makes the diagnosis complex.

We offer three different type-specific ELISA tests for the diagnosis of FMDV Types O, Asia 1, and A. The tests are excellent and unique tools for the recognition of these serotypes in outbreak situations.

Ordering information

Description	Type	Quantity	Cat. No.
PrioCHECK FMDV Type O Ab Strip Kit	ELISA	5-plate kit (440 tests)	7610420
PrioCHECK FMDV Type A Ab Strip Kit		5-plate kit (450 tests)	7610850
PrioCHECK FMDV Type Asia 1 Ab Strip Kit		5-plate kit (450 tests)	7610870
Related products			
PrioCHECK FMDV NS Ab Plate Kit	ELISA	5-plate kit (450 tests)	7610440
PrioCHECK FMDV NS Ab Plate Kit		10-plate kit (900 tests)	7610760
PrioCHECK FMDV NS Ab Strip Kit		5-strip plate (450 tests)	7610770

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