



A highly sensitive and specific multispecies cELISA for efficient serological diagnosis of foot-and-mouth disease

The VMRD foot-and-mouth disease cELISA

- Detects serum antibodies to the 3ABC non-structural polyprotein
- Total assay time <3 hours
- USDA-licensed for use in cattle, pigs, and sheep
- Select agent-free assay manufactured in the U.S.

Rapid
140 min run time

	Known Infection Status			Sum
	+	-	Sum	
VMRD cELISA	+	239	6	245
	-	1	643	644
	Sum	240	649	889

Sensitivity 99.6%
Specificity 99.1%

High sensitivity & specificity

889 bovine samples

- 503 FMD negative (U.S origin)
- 121 experimentally infected
- 117 naturally infected (Cameroon & S. Africa)
- 52 vaccinated, later challenged with FMDV

DIVA capable

- 3ABC NSP only induced with replicating virus
- Negative results in vaccinated cattle, pigs and sheep

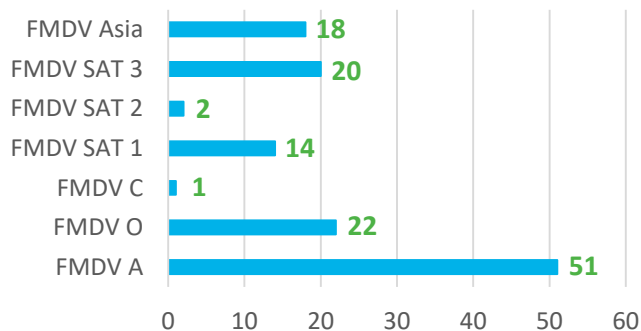
Excellent performance compared to other FMDV NSP ELISA

Effective for multiple species

- cELISA format enhances specificity while offering multispecies flexibility
- Currently validated for bovine, porcine, and ovine samples

Species	#	Sensitivity		Specificity	
		VMRD cELISA	Comparator assay	VMRD cELISA	Comparator assay
Bovine	386	99.6%	96.7%	99.3%	97.9%
Porcine	272	96.9%	76.9%	100%	100%
Ovine	214	98.6%	100%	76.1%	68.2%

Serotype distribution of experimental infections



Broad serotype reactivity

Bovine samples tested

- All 7 serotypes in experimental infections
- 5 serotypes in natural infections

Early detection

- Detection as early as 7 days post-infection
- All serotypes tested detected by 10 days