

Safety of type 2 PRRS

modified live virus (MLV) vaccines

What is a MLV vaccine?

MLV vaccines contain a small quantity of virus that has been altered so that it no longer can cause disease but is still capable of infection and multiplying in the animal.

The safety of MLV are of interest due to the potential for vaccinated pigs to continue to shed virus for prolonged periods.

Are MLV vaccines safe? Are vaccinated animals infectious? For how long?

Study design

Group 1 (G1) were vaccinated with PrimePac® PRRS (n=21)

Group 2 (G2) were vaccinated with Ingelvac® PRRS MLV (n=21)

Following vaccination, age-matched sentinels (n=1/group) were introduced weekly into vaccinated groups from 0 to 42 days post vaccination (DPV).



Sentinel pigs were co-housed with vaccinated pigs for 3 consecutive weeks, then removed and evaluated for PRRS seroconversion.

Three vaccinated pigs of each group were necropsied on a weekly basis from 7 to 42 DPV. Tonsils, nasal swabs, and feces were collected and assayed for virus isolation.



Seroconversion of sentinels

Sentinel pigs introduced to G2 seroconverted by 14 through 28 DPV, whereas sentinel pigs introduced to G1 seroconverted at 28 DPV only.

Group	Introduction of sentinels (days post-vaccination)						
	0	7	14	21	28	35	42
G1 (MSD)	Negative	Negative	Negative	Negative	Positive	Negative	Negative
G2 (BI)	Negative	Negative	Positive	Positive	Positive	Negative	Positive

Virus isolation in vaccinated pigs

Sentinel pigs introduced to G2 seroconverted by 14 through 28 DPV, whereas sentinel pigs introduced to G1 seroconverted at 21 DPV only.

Group	Introduction of sentinels (days post-vaccination)						
	7	14	21	28	35	42	
Tonsils	G1 (MSD)	0/3	0/3	0/3	1/3	1/3	0/3
	G2 (BI)	0/3	0/3	0/3	2/3	2/3	1/3
Nasal swabs	G1 (MSD)	0/3	0/3	1/3	2/3	1/3	0/3
	G2 (BI)	0/3	0/3	2/3	3/3	2/3	2/3
Feces	G1 (MSD)	0/3	0/3	0/3	0/3	0/3	0/3
	G2 (BI)	0/3	0/3	0/3	0/3	0/3	0/3

Keypoints

01

Pigs vaccinated with PrimePac PRRS shed vaccine virus shorter than Ingelvac PRRS MLV vaccinated pigs, which remained infectious for a longer period.

02

The persistence of PRRS infection in tonsils and nasal swabs from pigs vaccinated with PrimePac PRRS was shorter and less likely than in pigs vaccinated with Ingelvac PRRS MLV.

Although MLV vaccines can be considered clinically safe, they replicate, persist and are shed during variable periods of time in pigs.

