ALPHA DIAGNOSTIC INTERNATIONAL

LIFE TECH Life Technologies™ Your Molecular & Cell Technology Partner

RecombiVirus™ Porcine Circovirus (PCV2) Vaccine, Antibodies and ELISA Kits

RecombiVirus Q ™ series of ELISA kitsare 2nd generation diagnostic and quantitative ELISA kits to detect PCV2 virus specific antibodies using recombinant and highly purified viral antigens. Advantages of **RecombiVirus Q™** ELISA kits:

- **Recombinant viral antigens**: Safe, no risk of contamination
- **Qualitative or Quantitative**: Use single Positive antibody calibrator at 100 U/ml for +ve or –ve samples (Qualitative) or use full standard curve to measure antibody concentration in vaccinated or infected animals (Quantitative).
- **Rapid tests:** assay time ~105 mins
- **Sensitive**: higher sensitivity allows sample dilution of 1:100 or more. Less background. Antibody detection to <1.0 ng/ml.
- **Convenient**: Room temp incubations, all reagents in stable solution format; strips of 8-wells for maximum usage
- **Stable**: 1 year shelf life
- **PCV2 Capsid (ORF2) antibody** ELISA kit can be used to assess the antibody status of vaccinated animals or infection in non-vaccinated animals. **PCV2 Rep (ORF1) antibody** ELISA kit will serve as **DIVA test** (differentiation of infected from vaccinated animals) since several PCV2 vaccines (Circloflex, Circumvent, and Porcilis) do not have Rep gene and the presence of antibody to Rep will be due to natural infection.

Assay Procedure: Arrange required number of strips on the plate.

Step 1. Add **100µl of pre-diluted antibody standards**(0, 3, 10, 30, 100 U/ml) and **100 ul samples** (diluted 1:100 or higher) into respective wells. Mix gently and incubate at room temp for **60 mins**(25-28oC; no shaking necessary).

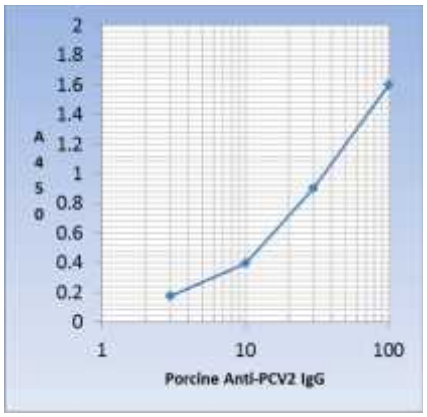
Step 2. Aspirate well contents and wash 3X with wash buffer. Add 100 ul of supplied antibody-HRP Conjugate into all wells; mix gently and incubate at RT for 30 mins.

Step 3. Aspirate or wash 5xwith wash buffer. Tap plates over paper towels. Add 100 ul of TMB Substrate. Mix gently and Incubate for 15 min at RT. Blue color develops in positive wells.

Step 4. Add 100 ul of stop solution into each well and mix gently (blue color turns yellow). Measure yellow color at 450 nm. Results are compared to Cut-off control and expressed as +ve and –ve or antibody values determined from Antibody standard curve and expressed as U/ml.

Calculation of Results

Results can be expressed as simple –ve and +ve as compared to Cut-off standards or CSFV antibody concn (U/ml) determined from standard curve.



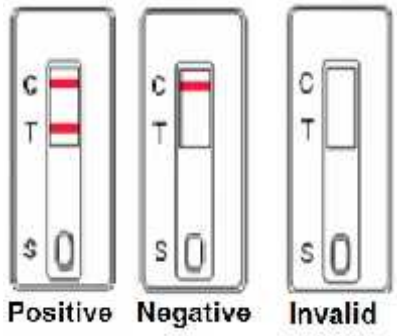
List of Porcine circovirus

Product details, data sheets, and pricing available (http://4adi.com/commerce/catalog/spcategory.jsp?category_id=2793)

	ELISA kit Description	1x96	5x96
PCV2 ORF2/Capsid	RecombiVirus Swine/Porcine Circovirus 2 Capsid protein (PCV2-ORF2/capsid) IgG ELISA kit, 96 tests	RV-400300-1	RV-400300-5
PCV2 ORF1/Rep	RecombiVirus Swine/Porcine Circovirus 2 Rep protein (PCV2-Rep) IgG DIVA ELISA kit, 96 tests	RV-400310-1	RV-400310-5
PCV2 virus	Porcine PCV2 virus Antibody Rapid Test Card (50 cards/pk) Available in bulk of 1000-10,0000	RV-400320-RT-50	

PCV2Rapid Tests Ordering Information

PCV2 rapid tests are designed using lateral flow immunoassay using colloidal gold detection. The test is conducted on the rapid test cassette. Samples can be plasma, serum or other biological device (25-50 ul sample per test is sufficient). The tests detect antibodies to PCV2virus as the test line contains PCV2antigens.



PCV2 Antibody Rapid Test

Fig. Left panel shows the rapid test device (unused). The samples (serum, plasma or other fluids) are diluted with the buffer or add 1-2 drops of sample in the sample window (S) and 1-2 drops of the buffer with the supplied buffer dropper. Let the device lay flat for 2-10 mins at room temp (25-28oC). **Red**testlines appear in the window within a few minutes (2-10 mins).

Interpretation:

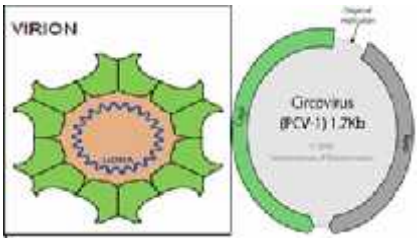
1. PCV2 antibody positive: Both lines C and T appear.
2. PCV2antibody negative. Only C line visible.
3. Invalid Test: No lines in C or T. Repeat the test and if still no lines then the test device is expired or defective.

PorcineCircovirusAntibody ELISA Kits, Recombinant Proteins, Peptides and Antibodies:

	Catalog#	Product Description	Product Type
PCV2-ORF2 (Capsid)	PCV2C21-C	Recombinant Porcine Circovirus 2 Capsid protein (PCV2-ORF2) control for western blot	Western control
	PCV2C21-NC	Porcine Circovirus 2 Open Reading Frame 2 protein (PCV2-ORF2) antibody negative control serum	Animal Disease serum control, Porcine
	PCV2C21-PC	Porcine Circovirus 2 Open Reading Frame 2 protein (PCV2-ORF2) antibody positive control serum	Animal Disease serum control, Porcine
	PCV2C21-S	Rabbit Anti-Porcine Circovirus 2 Capsid protein (PCV2-ORF2) antiserum	Antiserum
	PCV2C25-R-10	Recombinant (E.coli) Porcine Circovirus 2 capsid (PCV2-ORF2) protein (his tag, 26 kDa) purified	Recombinant protein
	PCV2R11-C	Recombinant Porcine Circovirus 2 replicase protein (PCV2-rep/ORF1) control for western blot	Western control
PCV2-ORF1 (Rep)	PCV2R11-NC	Porcine Circovirus 2 replicase protein (PCV2-rep/ORF1) antibody negative control serum	Animal Disease serum control, Porcine
	PCV2R11-PC	Porcine Circovirus 2 replicase protein (PCV2-rep/ORF1) antibody positive control serum	Animal Disease serum control, Porcine
	PCV2R11-S	Rabbit Anti-Porcine Circovirus 2 replicase protein (PCV2-rep/ORF1) antiserum	Antiserum
	PCV2R11-C	Recombinant Porcine Circovirus 2 replicase protein (PCV2-rep/ORF1) control for western blot	Western control
	PCV2R15-R-10	Recombinant (E.coli) Porcine Circovirus 2 replicase (PCV2-rep/ORF1) protein (his tag, 36 kDa) purified	Recombinant protein

Porcine Circovirus-General Information

The viral genus **Circovirus** is a part of the family of Circoviridae and contains viral species with non-enveloped, circular ssDNA genomes. These viruses are the smallest viruses replicating autonomously in nucleus of host cells of vertebrate species, including pigs, dogs, and birds such as pigeons, and ducks. The virions of Circoviruses are surprisingly small, with diameters ranging from 17 up to 22 nm. **Porcine circovirus (PCV)** is a small, non-enveloped virus (17 nm in diameter) with a single stranded circular DNA genome. It causes worldwide infection in swine and is highly contagious. The virus targets the lymphoid tissue and causes immunosuppression in the host. Pigs affected may experience increased mortality, poor growth, and weight loss, progressing to the level of severe thinning and weakness between 5 to 14 weeks of age. Two species of PCV have been characterized, **PCV1 and PCV2**. Although PCV1 was initially described as an infectant of porcine kidney cell line (PK15), it shows no pathogenic traits. Recently, PCV2 has been identified as being associated with a new condition in pigs, the post weaning multi-systemic wasting syndrome (PMWS), first described in Western Canada. This syndrome is characterized clinically by progressive weight loss, dyspnea, and jaundice and pathologically by lymphadenopathy, interstitial pneumonia, hepatitis, and nephritis. Similar syndromes have also been recently reported in the United States, Europe, and Asia. Other diseases, such as porcine dermatitis and nephropathy syndrome (PDNS), proliferative and necrotizing pneumonia (PNP), perina-talmyocarditis and reproductive failures are also associated with PCV2. PMWS is commonly diagnosed on the continents of North America, Europe and Asia.



The PCV genome (~1.76 kb) has three main **open reading frames** (ORFs) that encode well characterized proteins: **ORF1** encodes the viral **replicase proteins** (**REP and REP'**) that are essential for rolling circle replication. The replicases differ in that Rep is the full ORF1 transcript of 312-aa, whereas Rep' is a truncated form of ORF1 as a result of splicing and is only 168-aa in length. The two replicase enzymes that are created from ORF1, Rep and Rep', are conserved between the two types of PCV, and are part of the early phase of the virus.

ORF2 encodes the viral **capsid protein (Cap**) involved in host immune response. ORF2 differ slightly between PCV-1 and PCV-2. Antibodies to ORF2 are found in experimental PCV2 infection.ORF3 encodes an apoptotic protein, which is essential for the development of the viral pathogenesis The non-pathogenic PCV1 and the pathogenic PCV2 share ~68-76% protein identity (~90% DNA). PCV2 are divided into five genotypes (PCV2a, PCV2b, PCV2c, PCV2d, and PCV2e) that are ~95% conserved. PCV2a was long the predominant strain in the global pig population and is also the basis of all major commercially available PCV2 vaccines. Currently, PCV2b is the most commonly identified strain in pigs. Diagnosis of PCV is confirmed by finding the typical histologic lesions and demonstration of viral antigen or DNA within the lesions by immunohistochemical (IHC) or in situ hybridization methods (ISH) or by ELISA.

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PCV2_vaccines_ELISA_flr 150331P

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