**RecombiVirus™ Pseudorabies virus (PsRV) Vaccine, Antibodies and ELISA Kits**

**RecombiVirus™** series of ELISA kits are 2nd generation quantitative or qualitative ELISA kits to detect PsRV 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 1:50 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
- **PsRV-gB/gE antibody** ELISA kit can be used to assess the antibody status of vaccinated animals or infection in non-vaccinated animals. A DIVA tests based upon anti-gE IgG can be used for some designer vaccines.

### 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-HPR Conjugate into all wells; mix gently and incubate at RT for 30 mins.

**Step 3.** Aspirate or wash 5x with 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 ELISA Kits available from ADI.**


<table>
<thead>
<tr>
<th>ELISA kit Description</th>
<th>1x96</th>
<th>5x96</th>
</tr>
</thead>
<tbody>
<tr>
<td>PsRV Capsid gB</td>
<td>RV-400400-1</td>
<td>RV-400400-5</td>
</tr>
<tr>
<td>Recombiviruses Porcine/Pig Pseudorabies Virus envelope glycoprotein B (PsRV gB) IgG ELISA kit, 96 tests</td>
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<tr>
<td>PsRV virus</td>
<td>RV-400415-RT-50</td>
<td></td>
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<tr>
<td>Swine/Porcine Anti-pseudorabies virus (PsRV) antibody rapid test card for serum, plasma, whole blood (results in 2-10 mns), 50 tests/pk (Available in bulk of 1000-10,000)</td>
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**PCV2Rapid Tests Ordering Information**

PsRV 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 PsRV virus as the test line contains PsRV antigens.

### PsRV 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 test lines** appear in the window within a few minutes (2-10 mins).

**Interpretation:**

1. PsRV antibody positive: Both lines C and T appear.
2. PsRV antibody 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.

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Alpha Diagnostic Intl Inc., USA; **Email:** service@4adi.com; **Phone:** (800) 786-5777; (210) 561-9515; **Web:** [www.4adi.com](http://www.4adi.com)
**Porcine pseudorabies Virus (PsRV) General Information**

Porcine pseudorabies virus (PRV) or *Pseudorabies virus* (PsRV) is a viral disease in swine that is endemic in most parts of the world. It is caused by Suid herpesvirus 1 (SuHV-1), which is also called *pseudorabies virus* (PRV or PsRV) and is also known as *Aujeszky’s disease*, and in cattle as mad itch. Pseudorabies is related to the herpes virus, not the rabies virus. PRV is considered to be the most economically important viral disease of swine in areas where hog cholera has been eradicated. Populations of wild boar, or feral hogs (Sus scrofa), in the US commonly contract and spread the virus throughout their range. Mortality is highest in young piglets. Pregnant sows often abort when infected. Otherwise healthy male adults (boars) are typically latent carriers, that is, they harbor and transmit the virus without displaying symptoms or suffering disability. Other domestic and wild mammals, such as cattle, sheep, goats, cats, dogs, rodents, and raccoons, are also susceptible. The disease is usually fatal in these hosts. PSRV is especially prominent in regions of South America, Asia and Europe with dense swine populations. There have been no reports of PsRV in Norway, Finland or Malta, and the disease has been eradicated from domestic pig populations in Germany, Austria, Sweden, Denmark, the United Kingdom, Canada, New Zealand, and the United States.

**PsRV Genome** is approximately 143 kbp. The mature PsRV virions, consists of four morphologically distinct structural components: the central core contains the linear dsDNA that is enclosed within a protective icosahedral capsid to form a nucleocapsid; the capsid is embedded in a protein matrix known as the tegument; finally, the tegument is surrounded by the envelope, a lipid membrane containing several viral glycoproteins. Nearly half of all the PsRV gene products are structural components of the mature virion. Surrounding the NC is the tegument, which consists of at least 14 proteins. The viral envelope contains at least 15 proteins, 11 of which are glycosylated (gI, gB, gII, gp50 (gD), gI (gE), gX (gG), gH, gp63 (gI), gK, gL, gM, and gN and correspond to similar proteins of Human Herpes simplex virus 1). Of these, gB, gD, gH, and gL are essential for virus replication. Other glycoproteins such as gE, the tegument protein US9, and the nonstructural protein thymidine kinase (TK) are nonessential, but their presence correlates with virulence.

The virus is shed in the saliva and nasal secretions of infected swine and is spread through oral or nasal contact. Aerosolization of the virus and transmission by fomites also may occur. The virus may potentially survive for seven hours in humid air and spread up to two kilometers. Furthermore, it may survive on well water for up to seven hours, in green grass, soil, and feces for up to two days, in contaminated feed for up to three days, and in straw bedding for up to four days.

**Diagnosis of PsRV** is confirmed by Serologic tests for virus or antibody detection are available and include serum neutralization (SN), latex agglutination (LA), and enzyme-linked immunosorbent assay (ELISA). A fluorescent antibody test on tissue sections, immunohistochemistry on formalin-fixed tissues, or virus isolation may be used to identify virus in the brain or other tissues. A polymerase chain reaction (PCR) test has also been described.

**PsRV genetically engineered vaccines** are based on deletion of the TK virulence gene for safety and the deletion of non essential glycoprotein genes including gI, gII, gX and gp63 to provide immunological markers to differentiate naturally infected from vaccinated ones. SyntroVet marketed a new vaccine based on a virus with a gI (gE) glycoprotein deletion (SyntroVet PRV /Marker Gold®) and a companion differential ELISA diagnostic serology test (HerdChek®; Anti-PRV-gI). Norden Laboratories PR-Vac® had a natural gE deletion, and SmithKline Beecham developed and marketed Clin Ease-PRV®, a companion diagnostic differential serology test.

**Drawbacks of current PsRV Vaccine:** Third-generation recombinant PRV vaccines presently employed in the field are virus strains missing genes or harboring defective genes. Irrespective of their sophistication they have a major disadvantage: they contain replication competent virus. Therefore the virus may persist and exert immunosuppressive effects in animals, spread to other animals and even revert to virulence.

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### Porcine pseudorabies Virus Antibody ELISA Kits, Recombinant Proteins, Peptides and Antibodies

<table>
<thead>
<tr>
<th>Catalog#</th>
<th>Product Description</th>
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<tbody>
<tr>
<td>RV-400400-PNC</td>
<td>Porcine Pseudorabies Virus glycoprotein B (PsRV gB) antibody negative control</td>
<td>Animal Disease serum control, Porcine</td>
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<tr>
<td>RV-400400-PPC</td>
<td>Porcine Pseudorabies Virus glycoprotein B (PsRV gB) antibody positive control</td>
<td>Animal Disease serum control, Porcine</td>
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<tr>
<td>PSRVGB11-S</td>
<td>Rabbit Anti-Pseudorabies Virus glycoprotein B (PsRV gB) antiserum</td>
<td>Antiserum</td>
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<tr>
<td>PSRVGB15-R-10</td>
<td>Recombinant (E.coli, his tag) Purified Pseudorabies Virus glycoprotein B (PsRV gB)</td>
<td>Recombinant protein</td>
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<tr>
<td>PCV2C25-R-10</td>
<td>Recombinant (E.coli) Porcine Circovirus 2 capsid (PCV2-ORF2) protein (his tag)</td>
<td>Recombinant protein</td>
</tr>
<tr>
<td>PSRVGB11-C</td>
<td>Purified Pseudorabies Virus glycoprotein B (PsRV gB) control for western blot</td>
<td>Western control</td>
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