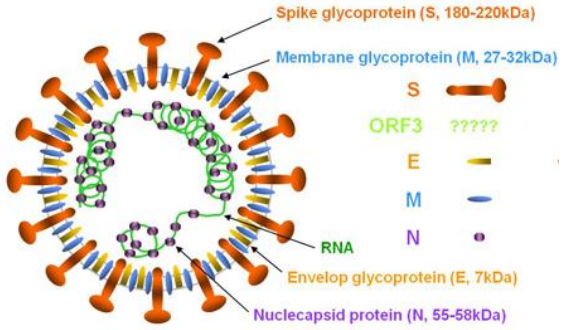
ALPHA DIAGNOSTIC INTERNATIONAL

Product Specification Sheet

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|---|---|---|
| □ Cat# PEDV13-M | Mouse Monoclonal Anti-Porcine epidemic diarrhea virus Spike protein S1 (PEDV-S1) IgM, ascites | SIZE:100 ul |
| □ Cat# PEDV13-F | Mouse Monoclonal Anti-Porcine epidemic diarrhea virus Spike protein S1 (PEDV-S1) IgM-FITC ascites | SIZE:0.5 ml |

**PEDV** is an enveloped RNA virus belonging to Group 1a, genus Coronavirus, family Coronaviridae, within the order Nidovirales, is the causative agent of porcine epidemic diarrhea (PED), an enteric disease characterized by vomiting, watery diarrhea, and dehydration in swine. This disease was first reported in feeder and grower pigs in the UK in 1971, after which the virus was identified. The disease has subsequently been reported in a number of European countries and more recently in China, Korea, Japan, Thailand and Vietnam.




The viral genome is a single-stranded positive-sense RNA of approximately 28 kb in size, containing six genes: the **replicase (Rep), spike (S), ORF3, envelope (E), membrane (M), and nucleoprotein (N)** genes, arranged in the order 5'-Rep-S-ORF3-E-M-N-3. S (180–220 kDa), M (27–32 kDa), and N (55–58 kDa) are the major structural proteins. The S protein plays a pivotal role in determining viral-cellular fusion activity and in inducing an immune response in the natural host The M protein plays an important role in the virus-assembly process, and induces antibodies that neutralize virus in the presence of complement The N protein of coronaviruses forms a helical ribonucleoprotein with the virus genomic RNA and is the predominant antigen produced in coronavirus-infected cells, thus making it a major viral target]. Unlike the structural proteins, little is known about the functions of the accessory proteins. The recently-identified ORF3 gene has been demonstrated to be a potentially important determinant of virulence in this virus.

PEDV cannot be transmitted to humans, nor contaminate the human food. PEDV has a substantial economic burden given that it is highly infectious, resulting in significant morbidity and mortality in piglets.. Consumers are likely to feel the effects of the viral disease in the form of higher prices for pork products. PED causes not only the death of neonatal piglets, but also weight loss in fattening pigs due to PEDV-induced diarrhea. Therefore, an effective vaccine strategy is essential in preventing PEDV infection.

**Source of Antigen and Antibodies**

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|---|---|
| **Antigen** | Recombinant PEDV S1 protein (US origin) |
| **Ab Host/type** | Mouse, monoclonal, IgM |
| **Ab Format** | Purified IgM (**cat #PEDV13-M**) supplied in PBS, pH 7.4, 0.05% azide |
| **-ve control** | Cat#20102-105, Mouse (non-immune) Serum IgM, purified, suitable for ELISA, Western, IHC as –ve control |
| **Secondary antibodies** | **Goat Anti-mouse IgM-HRP conjugate** Cat#40220 (AP, biotin, FITC conjugates also available) |

## Cat# PEDV13-F, FITC-conjugate

Purified antibody was coupled to FITC at F/P ratio ~5. The antibody is supplied in PBS, pH 7.4, 1% BSA, and 0.05% azide. Store at -20oC in suitable aliquots. Stability is ~6-12 months. Do not freeze and thaw.

Suggested conjugate dilutions are 1:20-1:500 for immunofluorescence.

**Absorption** Wavelength: 495 nm
**Emission** Wavelength: 528 nm

**Form & Storage of Antibodies/Peptide Control**

**Ascites**

□ 100 ul □ solution □ lyophilized powder
Buffer: PBS+0.05% azide
**Reconstitute powder** 100 ul of PBS.

**Storage**

**Short-term**: unopened, undiluted vials for less than a week at 4°C.
**Long-term**: at –20°C or below in suitable aliquots after reconstitution. Do not freeze and thaw and store working, diluted solutions.

**Stability**: 6-12 months at –20°C or below.
**Shipping**: 4°C for solutions and room temp for powder.

**Recommended Usage**

**Western Blotting**: An initial dilution of 1:500-2K is recommended for Western. Purified PEDV is ~50kda. Users must optimize antibody dilution depending upon the nature of samples and other technical conditions.
**ELISA** (1:10-50K; using 50-100 ng antigen/well).
**Histochemistry & Immunofluorescence**: 1:10 -1:50 for IFA

**Specificity & Cross-reactivity**

PEDV S1 protein

**References**: Shuai J (2007) Virus Genes 35, 619-627; Seo HW (2014) Vet. J. 200, 65-70

*This product is for In vitro research use only.

**Related material available from ADI**

PEDV11-C Purified recombinant Porcine epidemic diarrhea virus Nucleoprotein (PEDV-NP) WB positive control

PEDV11-S Porcine epidemic diarrhea virus Nucleoprotein (PEDV-NP) antiserum

PEDV12-F Mouse Monoclonal Anti-Porcine epidemic diarrhea virus Nucleoprotein (PEDV-NP) IgG-FITC Conjugate

PEDV12-M Mouse Monoclonal Anti-Porcine epidemic diarrhea virus Nucleoprotein (PEDV-NP) IgG, unlabeled

PEDV15-R-10 Recombinant (E.coli, his tag) Porcine epidemic diarrhea virus nucleoprotein (PEDV-NP) (>95%)
RV-400900-1 Recombivirus Porcine/Swine/Pig Anti-Porcine Epidemic Diarrhea Virus Nucleoprotein (PEDV-NP) IgG ELISA kit,

PEDV13-M-Porcine-Epidemic-Diarrhea-Spike 151215SV

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