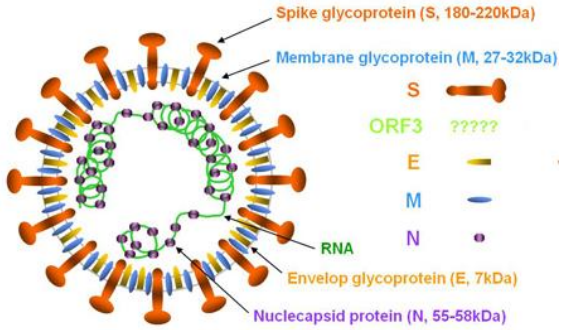
ALPHA DIAGNOSTIC INTERNATIONAL

Product Specification Sheet

□ Cat# PEDV14-M Mouse Monoclonal Anti-Porcine epidemic diarrhea virus (PEDV) IgG, unlabeled SIZE:100 ul

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

Antigen	Recombinant PEDV Nucleocapsid Protein protein (US origin)
Ab Host/type	Mouse, monoclonal, IgG
Ab Format	Purified IgG (**cat #PEDV14-M**) supplied in PBS, pH 7.4, 0.05% azide
-ve control	Cat# 20102-101-1, Mouse (non-immune) Serum IgG, purified, suitable for ELISA, Western, IHC as –ve control
Secondary antibodies	**Goat Anti-mouse IgG-HRP conjugate** Cat# 40320-200 (AP, biotin, FITC conjugates also available)

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 4ºC.

Long-term: at –20ºC or below in suitable aliquots after reconstitution. Do not freeze and thaw and store working, diluted solutions.

Stability: 6-12 months at –20ºC or below.
Shipping: 4ºC 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 NP 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

Catalog# Prod Description

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,

PEDV14-M-Porcine-Epidemic-Diarrhea 160503SV