ALPHA DIAGNOSTIC INTERNATIONAL

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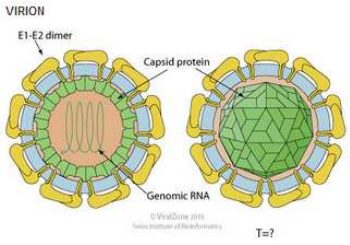
Product Specification Sheet

Anti- Classical Swine Fever Virus (CSFV) Protein Antibody controls

☐ AE-400200-01N	Porcine/Swine/Pig Classical Swine Fever Virus (CSFV) E2 IgG negative control serum	Size: 1 ml
☐ AE-400200-02P	Porcine/Swine/Pig Classical Swine Fever Virus (CSFV) E2 IgG positive control serum	Size: 1 ml



Classical swine fever (CSF) or hog cholera virus (HCV) is a highly contagious disease of pigs and wild boars. CSF causes fever, skin lesions, convulsions and usually (particularly in young animals) death within 15 days. The disease is endemic in much of Asia, Central and South America, and parts of Europe and Africa. United States, UK, Australia, Canada, Ireland, New Zealand and Scandinavia are believed to largely free from CSF disease but the virus can periodically be reintroduced via wild boars which may constitute a reservoir. **CSFV** leads to important economic losses worldwide. Despite the fact that preventive vaccination is prohibited, EU regulations allow the use of emergency vaccinations with MLV or marker vaccines. The severity of clinical signs is dependent on the virulence of the viral strains. Highly virulent (HV) strains cause an acute hemorrhagic form of the disease that induces marked immune suppression and high mortality, whereas moderately virulent (MV) strains induce either a sub-acute or a chronic form of the disease from which pigs may recover.

The infectious agent responsible is a virus CSFV of the genus Pestivirus in the family Flaviviridae. CSFV is closely related to the ruminant pestiviruses which cause Bovine Viral Diarrhea (BVDV) and Border Disease (BDV). There is only one serotype of CSF virus (CSFV). Detection of virus or viral nucleic acid in whole blood and of antibodies in serum are the methods of choice for diagnosing CSF in live pigs, whereas detection of virus, viral nucleic acid or antigen in organ samples is most suitable when the pig is dead. Vaccines against CSF are based on modified live virus (MLV) that has been attenuated by passage through cell cultures. CSF MLV vaccines (C-strain or Chinese strain) provide clinical protection against both HV and MV strain within a week of vaccination. Additionally, there exist vaccines based on Japanese viral strain “guinea pig exultation-negative (GPE−)”, the “Thiverval” strain and the “Mexican PAV” strain, all of which have been used. However, vaccinated animals cannot be distinguished from infected animals by serological diagnostic tests. Recombinant protein based CSFV E2 vaccine have also been introduced but they are less effective than MLV vaccines. In cases of recombinant E2 vaccine, CSFV glycoprotein Ern antibodies ELISA are used for DIVA test. A new generation of marker vaccine candidates based on chimeric pestiviruses has been developed in order to combine the DIVA strategy with good efficacy. Chimeric pestiviruses constructed over recent years consist of CSFV or border disease virus (BDV) E2-encoding sequences inserted into a bovine viral diarrhea virus (BVDV) backbone; alternatively, BVDV or BDV sequences may be inserted into a CSFV backbone. CSFV E2 antibody ELISA is used for conventional screening tests for the detection of CSFV infection on a herd basis. CSF Erns antibody ELISA is used as DIVA test for CSFV E2 subunit vaccines. Depending on the construction of the DIVA vaccines, E2, Erns, and NS3 ELISAs can all potentially be used as marker ELISAs (DIVA).

The CSFV genome (~12.5 kb) contains a single large open reading frame coding for a polyprotein (~4,000 aa) that is cleaved co- and post-transnationally by cellular and viral proteases into structural proteins (SP) Capsid C (p14), Envelop glycoprotein **Erns** (gp44-48), **E1** (gp33), and **E2** (gp55) and nonstructural proteins (NSP) NS2 (cysteine protease), **NS3** (serine protease), **NS4A, NS4B, NS5A, and NS5B**. The E2 glycoprotein is the most immunogenic CSFV protein

Storage

Short-term: unopened, undiluted vials for less than a week at 4oC.

Long-term: at –20C 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.

Source of Antibodies

Swine serum containing antibodies to CSFV protein as tested by swine anti-CSFV ELISA kit: E2 IgG (#AE-400200-1), Erns IgG (#AE-400210-1). Control sera are provided in a stabilizing buffer and 0.05% azide. Store liquid at 4oC for up to 3 months or frozen in suitable size aliquots.
Use undiluted in 50-100 ul per well or dilute as necessary depending upon the sensitivity of the detection. The controls may register different values if tested in a kit from a different manufacturer.

General References: Arzt et. al., (2010) Veterinary Pathology 47: 15–27; Rumenapf and Thiel (2008). Animal Viruses: Molecular Biology. Caister Academic Press.

*This product is for In vitro research use only.

Related material available from ADI

Catalog# Prod Description

AE-200140-2 Hog (Swine/Porcine) classical swine fever virus (CSFV) Antibody ELISA kit, 2x96 tests

AE-400200-1 Recombivirus™ Porcine/Swine/Pig Classical Swine Fever Virus (CSFV) E2 IgG ELISA kit, Quantitative, 96 tests

AE-400210-03N Porcine/Swine/Pig Classical Swine Fever Virus (CSFV) Erns IgG negative control serum
AE-400210-04P Porcine/Swine/Pig Classical Swine Fever Virus (CSFV) Erns IgG positive control serum

AE-400210-1 Recombivirus™ Porcine/Swine/Pig Classical Swine Fever Virus (CSFV) Erns IgG ELISA kit (DIVA test), Quantitative, 96 tests

CSFE21-S Rabbit anti-Classical Swine Fever Virus E2 protein (CSFV-E2) antiserum
CSFE25-R-10 Recombinant (E.coli) Classical Swine Fever Virus E2 protein (CSFV-E2) (his tag, >95%) purified
CSFR11-C Recombinant Classical Swine Fever Virus Erns protein (CSFV-Erns) control for western blot
CSFR11-S Rabbit anti-Classical Swine Fever Virus Erns protein (CSFV-Erns) antiserum
CSFR15-R-10 Recombinant (E.coli) Classical Swine Fever Virus Erns protein (CSFV-Erns) (his tag, >95%) purified

RV-400220-RT-50 TruStrip Swine/Porcine/Pig Classical Swine Fever virus (CSFV) antibody rapid test card (results is 2-10 mins), 50 cards/pk

RV-400230-RT-50 TruStrip Swine/Porcine/Pig Classical Swine Fever virus (CSFV) Antigen rapid test card (results is 2-10 mins), 50 cards/pk

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