ALPHA DIAGNOSTIC INTERNATIONAL

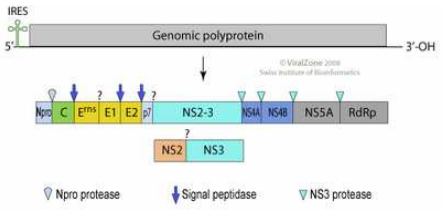
Product Specification Sheet

Classical Swine Fever Virus E2 protein (CSFV-E2) Antibodies and Controls

□ **Cat #** CSFE21-S	**Rabbit** Anti-Classical Swine Fever Virus E2 protein (CSFV-E2) antiserum	**SIZE**:100 ul
□ **Cat #** CSFE21-C	Recombinant Classical Swine Fever Virus E2 protein (CSFV-E2) control for western blot	**SIZE**:100 ul

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. 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.



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-translationally 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.

Vaccines against CSF are based on modified live virus (MLV) that has been attenuated by passage through cell cultures. Additionally, vaccines based on Japanese viral strain "guinea pig exultation-negative (GPE−)", the "Thiverval" strain and the "Mexican PAV" strain, 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. A new generation of marker vaccine candidates based on chimeric pestiviruses has been developed in order to combine the DIVA strategy with good efficacy. 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.

Source of Antigen and Antibodies

Antigen	Recombinant purified CSFV E2 protein (cat#CSFE25-R-10)
Ab Host/type	Rabbit, Polyclonal antiserum (Cat#CSFE21-S) supplied in 0.05% azide as preservative.
2-Ab	Goat Anti-rabbit IgG-HRP cat # 20320 (AP, biotin, FITC conjugates)
-ve control IgG	#20009-1, Rabbit (non-immune) IgG, purified, suitable for ELISA, Western, IHC as –ve control.

Cat # CSFE21-C, Positive Control

CSFV E2 protein was expressed in E. Coli as a his-tag fusion protein (full length, >95%, ~35 KDa). Purified CSFE E2 protein for Western blot +ve control (Cat# CSFE21-C) is supplied in SDS-PAGE. Store at –20oC in suitable size aliquots. SDS may crystallize in cold conditions. It should re dissolve by warming before taking it from the stock. It should be heated once prior to loading on gels. If the product has been stored for several weeks, then it may be preferable to add 5 ul of fresh 2x sample buffer per 10 ul of the # CSFE21-C solution prior to heating and loading on gels. This preparation is not biologically active. It is not suitable for ELISA or other applications where native protein is required. Do not freeze, thaw, or heat repeatedly.

Form & Storage of Antibodies/Peptide Control

Antiserum

□ 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 –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.

Recommended Usage

Western Blotting: An initial dilution of 1:500-2K is recommended for Western. 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: not tested.

Specificity & Cross-reactivity: This Antibody reacts with CSFV E2 protein and recombinant CSFV E2. Cross reactivity with other proteins has not been established. Antibodies and recombinant proteins to CSFV are available for control studies.

References: Meyers G (1989) Virology 171:555-567; Weiland F (1999) J. Gen. Virol. 80:1157-1165(1999). Ilona R (2004) Virology 322:143–157; Fernandez S (2008) Virology 370:122–129; Risatti GR Virology 364:371–382.

*This product is for In vitro research use only.

Related material available from ADI

CSFE21-C Recombinant Classical Swine Fever Virus E2 protein (CSFV-E2) control for western blot
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

AE-400200-1 Recombivirus™ Porcine/Swine/Pig Classical Swine Fever Virus (CSFV) E2 IgG ELISA kit, Quantitative, 96 tests
AE-400200-5 Recombivirus™ Porcine/Swine/Pig Classical Swine Fever Virus (CSFV) E2 IgG ELISA kit, Quantitative, 5x96 tests
AE-400210-1 Recombivirus™ Porcine/Swine/Pig Classical Swine Fever Virus (CSFV) Erns IgG ELISA kit (DIVA test), Quantitative, 96 tests
AE-400210-5 Recombivirus™ Porcine/Swine/Pig Classical Swine Fever Virus (CSFV) Erns IgG ELISA kit (DIVA test), Quantitative, 5x96 tests
RV-400220-RT-50 Swine/Porcine/Pig Classical Swine Fever virus (CSFV) antigen rapid test card (results is 2-10 mins), 50 cards/pk
RV-400230-RT-50 Swine/Porcine/Pig Classical Swine Fever virus (CSFV) Antibody rapid test card (results is 2-10 mins), 50 cards/pk
RV-400230-RT-50 Swine/Porcine/Pig Classical Swine Fever virus (CSFV) Antigen rapid test card (results is 2-10 mins), 50 cards/pk

CSFE21-S 141219P

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