Recombinant CFSV Envelope glycoprotein E2 Protein, Molecular Biology Grade

Cat. No. Envelope glycoprotein E2-27C **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Swine fever virus E2 protein expressed in CHO cells. CFSV E2 Protein is derived from the gene sequence of predominant CSFV strains circulating in pig farms. Specific mutations in the extracellular region of the E2 gene have been introduced to cover all immunogenic epitopes, resulting in a theoretical molecular weight of 41.18 kDa. CFSV E2 Protein is expressed using the CHO (Chinese Hamster Ovary) cell system, yielding high protein expression levels with industrial production scales achieving protein yields of ≥3 g/L.
Species	CFSV
Source	CHO
Description	Classical swine fever (CSF) remains one of the most economically significant viral diseases affecting domestic and wild pigs globally. The causative agent, the Classical Swine Fever Virus (CSFV), is highly contagious, with a high rate of morbidity and mortality. CSFV is an enveloped, positive-sense single-stranded RNA virus. Its genome, approximately 12.3 kb in length, encodes a single polyprotein precursor consisting of 3,898 amino acids. This precursor is processed by both host and viral proteases into mature structural and non-structural proteins. The structural proteins include the nucleocapsid protein C and three envelope glycoproteins: E0 (Erns), E1, and E2. In the viral envelope and infected cells, CSFV glycoproteins exist as biologically active disulfide-linked homodimers and heterodimers. Among them, E2 is the most immunogenic and serves as the primary target for neutralizing antibodies.

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	Erns is the second target for neutralizing antibodies, existing as a homodimer with a molecular weight of approximately 97 kDa in viral particles, on the surface of infected cells, and is also secreted by cells.
Form	Liquid, Clear
Molecular Mass	41.18 kDa
Endotoxin	≤ 50 EU/mL LAL method
Purity	≥ 95%, SDS-PAGE DNA and RNA free DNase and RNase free
Storage	Below 4 centigrade. 1 year at -20 centigrade
pI	6.93
Advantages	High Protein Purity: CFSV E2 Protein boasts a purity level exceeding 95%, ensuring a high-quality and consistent protein preparation. Superior Stability and Immunogenicity: The protein demonstrates outstanding stability, with minimal degradation even after four months of storage at 4 centigrade. Its biological activity and immunogenicity are closely aligned with those of natural protein molecules. Robust Immunization: The product induces a strong immune response, with all experimental pigs developing positive antibodies against swine fever. Elevated Antibody Titers: The antibody levels generated by this product surpass those of comparable E2 vaccines on the market, providing extended immune protection for up to 6 months. Extended Storage Capability: With excellent stability and negligible degradation after four months at 4 centigrade, the product is well-suited for long-term storage, maintaining its efficacy over extended periods.

GENE INFORMATION

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Official Symbol	Envelope glycoprotein E2
Synonyms	CFSV E2 Protein

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