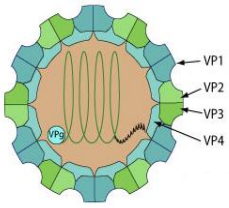
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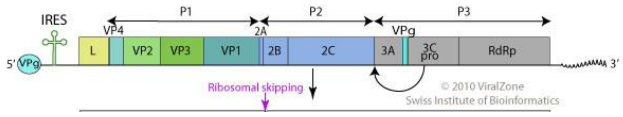
Product Specification Sheet

Seneca Valley Virus protein

☐ Cat# SEVC15-R-10 Recombinant (E. coli) Seneca Valley Virus (SeV/SVV) VP1 protein (>95%, his-tag) **Size**: 10 ug



Seneca Valley virus (SVV) is a small, non-enveloped picornavirus, unknown until 2002 when it was discovered incidentally as a cell culture contaminant. There is currently only one species in this genus: the type species Senecavirus A. The family Picornaviridae also contains foot-and-mouth disease virus (FMDV) and swine vesicular disease virus (SVDV). Naturally occurring antibodies against the virus have been detected in swine, cattle, mice, and a single human sample, though the virus is not known to cause disease in humans. Pathogenicity in swine remains unclear. Swine SVV infection has occurred across the United States and Canada.



Seneca Valley virus (SVV) is a small, non-enveloped virus containing a single strand of positive-sense RNA within a protein capsid. SVV-001 is the first original SVV isolate whose complete genome sequence is analyzed in 2008. SVV-001 is the first naturally occurring non-pathogenic picornavirus seen to mediate selective cytotoxicity towards tumor cells with neuroendocrine cancer features. The protomer of SVV-001 is composed of four different subunits, VP1, VP2, VP3 and VP4, of lengths 265, 286, 241 and 74 residues, respectively. The overall tertiary structure of VP1-VP4 subunits is conserved with the exception of loops, especially those of VP1 that show large deviations relative to the members of the Cardioviruses.

Seneca virus linear ssRNA (+) genome is of 7.3 kb, polyadenylated, and composed of a single ORF encoding a polyprotein. Viral genomic RNA has a viral protein (VPg) at its 5' end instead of a methylated nucleotide cap structure. The 5' end contains an internal ribosome entry site probably of type IV. The P1 region encodes the structural polypeptides. The P2 and P3 regions encode the nonstructural proteins associated with replication. Probably encodes a unique protease 3C.

Direct antigen detection of vesicular lesions, using the immunohistochemical assay, can effectively eliminate or confirm the possibility of a SVV infection. The rapid identification of the SVV antigen can be accomplished using mAbs. The cELISA methodology, using a developed mAb, offers a promising approach for a rapid and convenient serodiagnosis, for screening possible SVV infections.

Source of Antigen



Recombinant SVV-VP1 protein was expressed in E.coli as a his-tag fusion protein (270 aa, >95%, ~36-40 kda). Purified protein is supplied in 50 mM Tris-HCl, 8M urea, 0.5 mM EDTA, 5 mM β-Mercaptoethanol, 0.25 M NaCl and 0.25 M Imidazole (see lot sp. Conc. on the vial)

It is suitable for ELISA, Western or other applications where native protein is required. Do not freeze, thaw, or heat repeatedly.

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
ELISA, Western blot

Cellular Activity, Histochemistry & Immunofluorescence

Specificity:
SVV-VP1 is conserved in Seneca Valley Virus or Senecavirus A (100%). SVV-VP1 is minimally conserved in Saffold virus (34%), Human Cosavirus D5 (31%), and Human TMEV-like cardiovirus (32%). Protein or antibody crossreactivity with these viruses is not established.

General References: Hales LM (2008) J. Gen. Virol. 89, 1265-1275; Venkataraman, S, Reddy, SP, Loo, J (2008) Structure 16, 1555-1561.

*This product is for In vitro research use only.

Related material available from ADI

Catalog# Description

RV-404200-1 RecombiVirus Pig/Swine Anti-Seneca Valley Virus (SeV) IgG ELISA kit, Quantitative, 96 tests

RV-404210-1 RecombiVirus Bovine/Cow Anti-Seneca Valley Virus (SeV) IgG ELISA kit, Quantitative, 96 tests
RV-404220-1 RecombiVirus Mouse Anti-Seneca Valley Virus (SeV) IgG ELISA kit, Quantitative, 96 tests
SEVC11-C Recombiant (E. Coli) Seneca valley Virus (SeV/SVV) VP1 protein control for Western blot

SEVC11-S Rabbit Anti-Seneca valley Virus (SeV/SVV) VP1 antiserum
SEVC15-R-10 Recombinant (E. coli) Seneca Valley Virus (SeV/SVV) VP1 protein (>95%, his-tag)

SEVC15-R-10-Seneca-Valley-Protein
170104SV

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