

Virus Name: San Perlita		Abbreviation: SPV
Status Possible Arbovirus	Select Agent No	SALS Level 3
SALS Basis Placed at this biosafety level based on close antigenic or genetic relationship to other viruses in a group of 3 or more viruses, all of which are classified at this level.		
Other Information		
Antigenic Group B		

SECTION I - Full Virus Name and Prototype Number

Prototype Strain Number / Designation 71V1251	Accession Number	Original Date Submitted 9/19/1984
Family Flaviviridae	Genus Flavivirus	
Information From Div. Vector-Borne Viral Diseases, CDC	Address P.O. Box 2087, Fort Collins, CO 80522	
Information Footnote Reviewed by editor		

Section II - Original Source

Isolated By (name) D.B. Francy and J.L. Lazuick	Isolated at Institute DVBVD, CDC, Fort Collins, CO	
Host Genus Sigmodon hispidus (cotton rat)	Species	Host Age/Stage Adult
Sex Male		
<u>Isolated From</u>	<u>Isolation Details</u>	
Whole Blood		
Signs and Symptoms of Illness None	Arthropod	
Time Held Alive before Inoculation		
Collection Method Live trapping (Sherman)	Collection Date 7/30/1971	
Place Collected (Minimum of City, State, Country) Willacy County, Texas (near Raymondville)		
Latitude 26° N	Longitude 97° 5' W	
Macrohabitat Mesquite-Acacia savannah	Microhabitat Improved salt grass pasture	Method of Storage until Inoculated Mechanical freezer at -65dC
Footnotes		

Section III - Method of Isolation

Inoculation Date
2/2/1972

Animal (Details will be in Section 6)
nb mice

Route Inoculated
Intracerebral

Reisolation
Yes

Other Reasons

Homologous Antibody Formation by Source Animal
Not tested

Test(s) Used

Footnotes

Section IV - Virus Properties

Physicochemical

Pieces (number of genome segments)	Infectivity	Sedimentation Coefficients(s) (S)
Percentage wt, of Virion Protein	Lipid	Carbohydrate
Virion Polypeptides: Number	Details	
Non-virion Polypeptides: Number	Details	
Virion Density	Sedimentation Coefficients(s) (S)	
Nucleocapsid Density	Sedimentation Coefficients(s) (S)	

Stability of Infectivity (effects)

pH (infective range)

Lipid Solvent (ether - % used to test)	After Treatment Titer	Control Titer
Lipid Solvent (chloroform)	After Treatment Titer	Control Titer
Lipid Solvent (deoxycholate)	After Treatment Titer	Control Titer
Other (formalin, radiation)		

Virion Morphology

Shape	Dimensions	
Mean nm	Range nm	
Measurement Method	Surface Projections/Envelope	Nucleocapsid Dimensions, Symmetry

Morphogenesis

Site of Constituent Formation in Cell Site of Virion Assembly Site of Virion Accumulation

Inclusion Bodies Other

Hemagglutination

Hemagglutination Antigen Source Erythrocytes (species used)
Yes **SMB ext. by sucrose-acetone** **Goose**

pH Range pH Optimum
5.9-6.8 **6.2**

Temperature Range Temperature Optimum
4dC and RT **Room temperature**

Remarks

Serologic Methods Recommended
PRNT, CF, HI

Footnotes

Section V - Antigenic Relationship and Lack of Relationship to Other Viruses

In CF and HI tests, with a crude alkaline extract of infected SM brain as antigen, 71V1251 reacted only with a flavivirus grouping MAF. No reactions were observed when 71V1251 antigen was tested with 47 other immune mouse ascitic fluids representing more than 250 arboviruses plus rabies, mouse hepatitis and Theiler's GDVII virus. MA387-72 virus was found to be another strain of San Perlita virus.

ANTIGEN OR ANTIBODY TO:	71V1251			
	ANTIGEN		ANTIBODY	
	CF ^a	NT	CF ^a	NT
71V1251	2048	10240	2048	10240
78TWM-106 ^b	256	40	128	40
MA387-72	3238	3620	2048	5120
Jutiapa	512	813	8	640
Israel Turkey Meningoenc.	323	<8	8	<8
Modoc	128	160	32	80
Batu Cave	64	c	8	<8
Phnom Penh Bat	64	<8	16	<8
Entebbe Bat	64		8	
Bio Brava	64	<8	256	<8

Rio Bravo	64	<8	256	<8
Saboya	32		8	
Sokuluk	16	<8	8	<8
Aroa	16		8	<8
Carey Island	16		8	
Apoi	8	<8	128	40
St. Louis enc.	8	<8	64	<8
Cowbone Ridge	8	40	<8	80
Montana Myotis Leukoenc.	8		8	
Dakar Bat	<8		8	
Bukalasa Bat	<8		32	
Koutango	<8		8	
Negishi	<8		32	

^a Also tested with antigen/antiserum to Tamana Bat virus; negative reactions were obtained.

^b 78TWM-106 is a flavivirus from south Texas for which the name Sal Vieja has been proposed.

^c blank = not tested.

Section VI - Biologic Characteristics

Lab Methods of Virus Recovery (ALL ISOLATIONS)

Virus Source (all VERTEBRATE isolates)
Blood (LV), liver-spleen-kidney pool (LV)

Cell system (a)	Virus passage history (b)	Evidence of Infection						
		CPE			PLAQUES			Growth Without CPE +/- (g)
		Day (c)	Extent (d)	Titer TCD50/ml (e)	Day (c)	Size (f)	Titer PFU/ml (e)	
LLC-MK2 (CL)	SM2				10	2-3 mm	7.3 (d)	
Vero (CL)						No plaques	<3.0	
Duck embryo (PC)						No plaques	<3.0	

(d) Expressed in dex

Section VII - Natural Host Range (Additional text can be added below table)

Vertebrate (species and organ) and arthropod	No. isolations/No. tested	No. with antibody/No. tested Test used	Country and region
Sigmodon hispidus (cotton rat, blood)	1/56		Southeastern Texas, USA
Sigmodon hispidus (organs)	1*		Presidio, Texas, USA

* This virus isolate was designated MA387-72.

Section VIII - Susceptibility to Experimental Infection (include viremia)

Experimental host and age	Passage history and strain	Inoculation Route-Dose	Evidence of infection	AST (days)	Titer log ₁₀ /ml
Mice (nb)	Original	ic	Prostration, death	10	
Mice (nb)		ip			
Mice (nb)		sc			
Mice (wn)		ic			
Mice (wn)	SM2	ip	Death	8-9	
Mice (nb)	SM1	ic	Prostration, paralysis, death	6	>6.4
Mice (nb)	SM2	ic	Prostration, paralysis, death	7	9.2

Section IX - Experimental Arthropod Infection and Transmission

Arthropod species & virus source(a)	Method of Infection log ₁₀ /ml (b)		Incubation period (c)		Transmission by bite (d)		Assay of arthropod, log ₁₀ /ml (e)		
	Feeding	Injected	Days	°C	Host	Ratio	Whole	Organ	System

Section X - Histopathology

Character of lesions (specify host)	
<u>Inclusion Bodies</u>	<u>Intranuclear</u>
Organs/Tissues Affected	
Category of tropism	

Section XI - Human Disease

In Nature	Residual	Death
Subclinical	Overt Disease	
Clinical Manifestations		
Number of Cases	Category (i.e. febrile illness, etc.)	

Section XII - Geographic Distribution

Known (Virus detected) Southeastern Texas, USA
Suspected (Antibody only detected)

Section XIII - References

1. Varelas-Wesley, I and Calisher, C.H. 1982. Am. Trop. Med. Hyg. 31:1273-1284.

Remarks
