

Virus Name: Santa Rosa		Abbreviation: SARV
Status Possible Arbovirus	Select Agent No	SALS Level 3
SALS Basis Insufficient experience with virus; i.e., experience factor from SALS surveys was less than 500 in laboratory facilities with low biocontainment.		
Other Information		
Antigenic Group Bunyamwera		

SECTION I - Full Virus Name and Prototype Number

Prototype Strain Number / Designation M2-1493	Accession Number	Original Date Submitted 9/27/1984
Family Bunyaviridae	Genus Bunyavirus	
Information From Arbovirus Reference Branch, CDC	Address DVBVD, CDC, Post Office Box 2087, Fort Collins, Colorado 80522,USA	
Information Footnote Reviewed by editor		

Section II - Original Source

Isolated By (name) W.D. Sudia and V.F. Newhouse	Isolated at Institute CDC, Atlanta, Georgia	
Host Genus Aedes angustivittatus, pool of 100 mosquitoes	Species	Host Age/Stage Adults
Sex Female		
<u>Isolated From</u>	<u>Isolation Details</u>	
Signs and Symptoms of Illness	Arthropod Depleted	
Time Held Alive before Inoculation Frozen on dry ice in field		
Collection Method CDC light trap	Collection Date 6/20/1972	
Place Collected (Minimum of City, State, Country) Durango (Santa Rosa), Mexico		
Latitude 24° 1' N	Longitude 10° 32' W	
Macrohabitat Sonoran Desert	Microhabitat Valley floor, cactus and mesquite	Method of Storage until Inoculated Dry ice (-60dC) in field, mechanical freezer (-70dC) in laboratory
Footnotes		

Section III - Method of Isolation

Inoculation Date
7/21/1972

Animal (Details will be in Section 6)
nb mice

Route Inoculated
Intracerebral

Reisolation
Yes

Other Reasons

Homologous Antibody Formation by Source Animal

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) 1:500	After Treatment Titer 6.3 dex	Control Titer 8.8 dex
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
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Inclusion Bodies	Other	
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Hemagglutination

Hemagglutination No	Antigen Source SMB ext. by sucrose-acetone	Erythrocytes (species used) Goose
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pH Range 5.9-6.9	pH Optimum	
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Temperature Range 4dC, 22dC, 37dC	Temperature Optimum	
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Remarks

Serologic Methods Recommended
NT, CF

Footnotes

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

Shown to be a member of the Bunyamwera group by CF tests. Neutralization tests differentiated Santa Rosa virus from other known Bunyamwera group viruses. Neutralization test results shown below:

Virus or Antibody to:	M2-1493 Ht/Ho ^a	
	Virus	Antibody
Maguari	20/430	320/1100
(MPB1-1551) ^b	- ^d /230	160/1100
Ilesha	40/5120	160/1100
Lokern	320/2560	80/1100
Cache Valley	20/80	55/1100
Tlacotalpan	20/320	40/1100
Birao	110/10240	40/1100
Shokwe	-/810	20/1100
Batai	460/5100	-/1100
Beliefe ^c	40/2560	-/1100
Tensaw	20/1110	-/1100

Bunyamwera	20/1800	-/1100
Northway	-/490	-/1100
Main Drain	-/2560	-/1100
Guaroa	-/230	-/1100
Kairi	-/320	-/1100
Anhembi	-/1000	-/1100
Sororoca	-/7200	-/1100
Wyeomyia	-/1000	-/1100
Tucunduba ^c	-/260	-/1100
Taiassui ^c	-/320	-/1100
Germiston	-/2560	-/1100

^a Geometric mean titer of 2 or more determinations or 2 or more observations of titers = <20.

^b A variant of Cache Valley virus, Strain MPB1-1551 was isolated from *Psorophora confinnis* mosquitoes collected 7/17/71 in Palo Blanco, Tamaulipas, Mexico (1).

^c This virus designation has not been formally published. Mention here is not intended to constitute priority.

^d - = <20; no antibody detected at lowest dilution tested (1:20).

Section VI - Biologic Characteristics

Virus Source (all VERTEBRATE isolates)

Lab Methods of Virus Recovery (ALL ISOLATIONS)
Newborn mice

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)	
Vero (CL)	SM5				2	2-3 mm	9.5(d)	
Primary duck embryo (PC)						No plaques		

(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
Aedes angustivittatus	2/26,318		Durango(Santa Rosa), Mexico
Ae vexans	0/13,467		
Anopheles pseudopunctipennis	0/3		
Culex tarsalis	0/2,113		
Other mosquitoes	0/2,631		

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)	SM5	ic	Death	3	9.8
Mice (nb)		ip	Death	5	8.4
Mice (nb)		sc			
Mice (wn)		ic	Death	6	9.1
Mice (wn)		ip	None		<3.5

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)

Inclusion Bodies

Intranuclear

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) Durango (Santa Rosa), Mexico (5)
Suspected (Antibody only detected)

Section XIII - References

1. Sudia, W.D., et al. 1975. Am. J. Epidem. 101:17-35.
2. Woodall, J.P., et al. 1965. E. Afr. Virus Res. Inst. Report No. 14. p. 37.
3. Henderson, B.E., et al. 1969. E. Afr. Virus Res. Inst. Report No. 18.p. 29.
4. Woodall, J.P. 1967. Atas do Simposio sobre a Biota Amazonica 6:31-63.
5. Sudia, W.D., et al. 1975. Am. J. Epidem. 101:51-58.

Remarks

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