Virus Name: Serra do Navio	Abbreviation: SDNV

Status
Possible Arbovirus

Select Agent
No

SALS Level
3

SALS Basis
Isufficient experience with virus; i.e., experience factor from SALS surveys was less than 500 in laboratory facilities with low biocontainment.

Other Information

Antigenic Group
California

SECTION I - Full Virus Name and Prototype Number

Prototype Strain Number / Designation
BeAr 103645

Accession Number

Original Date Submitted
9/28/1984

Family
Bunyaviridae

Genus
Bunyavirus

Information From
F. Pinheiro and A.P.A.T. Rosa

Address
Instituto Evandro Chagas, FSESP, CP 621, 66.000 Belem, Para,Brazil

Information Footnote
Revised

Section II - Original Source

Isolated By (name)
Belem Virus Laboratory

Isolated at Institute
Belem, Para, Brazil

Host Genus
Aedes (Och) fulvus, pool of 26

Species

Host Age/Stage
Adults

Sex
Female

Isolated From

Isolation Details

Signs and Symptoms of Illness

Arthropod
Depleted

Time Held Alive before Inoculation
Few hour

Collection Method
Human bait

Collection Date
5/24/1966

Place Collected (Minimum of City, State, Country)
Serra do Navio, T.F. Amapa, Brazil

Latitude
1° N

Longitude
52° W

Macrohabitat
Tropical forest, periodically inundated

Microhabitat
Primary vegetation at ground level, shade

Method of Storage until Inoculated
-60dC

Footnotes

Section III - Method of Isolation

Inoculation Date
7/1/1966

Animal (Details will be in Section 6)
nb mice

Route Inoculated
Intracerebral

Reisolation
Not tried

Other Reasons
Virus different from any available in laboratory

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) **1:1000**	After Treatment Titer **1.16 dex**	Control Titer **3.83 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
Inclusion Bodies	Other	

Hemagglutination

Hemaggiutination	Antigen Source	Erythrocytes (species used)
No	**SMB ext. by sucrose-acetone, sonicated and trypsin tr.; hamster serum ext. by acetone**	**Goose**
pH Range **5.8-7.0**	pH Optimum	
Temperature Range **RT and 37dC**	Temperature Optimum	
Remarks		
Serologic Methods Recommended **CF, NT**		
Footnotes		

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

	CF Test			
	Serra do Navio antigen		Serra do Navio Hamster Immune Serum	
Hamster Immune Sera or Antigens	Ht/Ho	Ratio	Ht/Ho	Ratio
Melao	0/16	0	0/64	0
California	0/32	0	0/64	0
Trivittatus	0/512	0	0/64	0
Keystone	8/32	1/4	8/64	1/8
Tahyna	0/32	0	0/64	0
Jamestown Canyon	0/16	0	16/64	1/4
La Crosse *	8/16	1/2	16/64	1/4
Snowshoe Hare *	0/16	0	16/64	1/4
San Angelo	0/32	0	0/64	0
Inkoo *	>32/>32	-	8/64	1/8

* Mouse serum

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	
		Day (c)	Extent (d)	Titer TCD50/ml (e)	Day (c)	Size (f)	Titer PFU/ml (e)	+/- (g)	
BHK-21 (CL)	SM 13				2-3	2-3 mm	5.2**		
Vero (CL)	SM 11	2	4+	7.5**		No plaques			
CE (PC)					6	<1 mm	6.5		

** 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 (Och) fulvus	1/50,590 *		Serra do Navio, Amapa, Brazil
Ectoparasites	0/45,512		
Sentinel mice	0/915		
Sentinel chicken	0/2		
Man		4/65 NT	
Man		1/40 NT	Amapa, Amapa, Brazil
Man		4/158 NT	Calcoene, Amapa, Brazil
Proechimys		1/47 NT	Serra do Navio, Amapa, Brazil
Oryzomys		0/1 NT	
Didelphis		1/35 NT	
Philander		0/11 NT	
Metachirus		0/2 NT	
Bats		0/20 NT	

No isolations obtained from viscera and/or blood of the following animals captured in the Serra do Navio region: 1,057 marsupials, 2,876 rodents, 54 monkeys, 8 edentates, 1 carnivora, 1,525 bats, 531 wild birds, 1 amphibia, and 50 reptiles.

* Total of mosquitoes examined, of which 5,431 were Aedes (Och) fulvus.

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 log10/ml
Mice (nb)	SM 2	ic 0.02	Death	3.2	8.0-9.0
Mice (nb)		ip 0.02	Death	6.2	
Mice (nb)	SM 6 Vero 4	sc 0.02	Survived		
Mice (wn)	SM 2	ic 0.03	Irregular deaths		
Mice (wn)		ip 0.03	None		
hamsters (wn)	SM 6 Vero 4	ic 0.1	Irregular deaths		
hamsters (wn)		ip 0.1	Antibody		

Section IX - Experimental Arthropod Infection and Transmission

Arthropod species & virus source(a)	Method of Infection log10/ml (b)		Incubation period (c)		Transmision by bite (d)		Assay of arthropod, log10/ml (e)		
	Feeding	Injected	Days	°C	Host	Ratio	Whole	Organ	System

Section X - Histopathology

Character of lesions (specify host)
Newborn mice inoculated with virus, which had been passed 7 times in mice and 4 times in Vero cells, showed edema of brain. No lesions were seen in the liver, kidney, heart, spleen, lung, and pancreas (1).

Inclusion Bodies — Intranuclear

Organs/Tissues Affected
Brain

Category of tropism
Neurotropic

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)
Amapa, Brazil

Suspected (Antibody only detected)

Section XIII - References

1. Dias, L.B. Personal communication.

Remarks