Virus Name: Enseada	Abbreviation: ENSV

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
Ungrouped

SECTION I - Full Virus Name and Prototype Number

Prototype Strain Number / Designation
76V25880

Accession Number

Original Date Submitted
9/24/1984

Family
Bunyaviridae

Genus
Bunyavirus-like

Information From
Division of Vector-Borne Viral Diseases

Address
P.O. Box 2087, Fort Collins, Colorado 80522

Information Footnote
Reviewed by editor

Section II - Original Source

Isolated By (name)
D.B Francy

Isolated at Institute
DVBVD, Fort Collins, CO

Host Genus
Culex (Mel) taeniopus

Species

Host Age/Stage
Imago

Sex
Female

Isolated From

Isolation Details

Signs and Symptoms of Illness

Arthropod
Depleted, Gravid

Time Held Alive before Inoculation

Collection Method
CDC light trap with CO2

Collection Date
8/3/1976

Place Collected (Minimum of City, State, Country)
Cananeia, State of Sao Paulo, Brazil

Latitude
24° 0' S

Longitude
47° 0' W

Macrohabitat

Microhabitat

Method of Storage until Inoculated
-65dC

Footnotes

Section III - Method of Isolation

Inoculation Date
6/27/1977

Animal (Details will be in Section 6)
(Tissue Culture)

Route Inoculated

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) **1:1000**	After Treatment Titer **<2.0 dex**	Control Titer **7.2 dex**

Other (formalin, radiation)

Virion Morphology

Shape **Spherical (1)**	Dimensions **90-110 nm diameter (1)**	
Mean **100 nm**nm	Range **90-110nm**nm	
Measurement Method **Grating replicas and photometric msmts.**	Surface Projections/Envelope **Envelope present**	Nucleocapsid Dimensions, Symmetry **70-75 nm**

Morphogenesis

Site of Constituent Formation in Cell	Site of Virion Assembly	Site of Virion Accumulation
	Intracellular cytoplasmic membranes	**Endoplasmic reticulum**
Inclusion Bodies	Other	

Hemagglutination

Hemaggiutination	Antigen Source	Erythrocytes (species used)
No	**SMB ext. by sucrose-acetone**	**Goose**
pH Range	pH Optimum	
5.8-6.9		
Temperature Range	Temperature Optimum	
RT		

Remarks

Serologic Methods Recommended
CF, PRNT

Footnotes

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

Antigens of strains 76V-25880 and 78V-213 were tested by CF with grouping MIAF: A, B, C, Bunyamwera, Simbu, Guama, Turlock, California, Anopheles A, Anopheles B, Patois and Capim [1] . Also tested with MIAF for EEE, WEE, VEE, AURA, MAY, Uruma, MUC, PIX, UNA, SDN, MEL, GAM, ICO, ITP, TCM, LUK, ANA, ANB, BOR, TUR, IRI, KWA, SLE, YF, ROC, BSQ, ILH, DEN-2, VSI, VSNJ, COC, PIRY, TIM, CHO, ARU, IERI, TME, TNT, MAT, NAR, NAV, MCO, BER, GTB, and Reo-3. No reactions obtained with these preparations.
In addition, hemagglutinins of the following viruses were tested by HI with MIAF for strain 78V-213: La Crosse, Tensaw, Caraparu, Bunyamwera, Nepuyo, Mermet, Tahyna, Apeu, Madrid, Marituba, Oriboca, Gumbo Limbo, Anhembi, Batai, Main Drain, Lokern, Santa Rosa, Ilesha, Cache Valley, Icoaraci and Sandfly (Sicilian).
MIAF prepared to 78V-213 was tested by CF with the following antigens (as well as those listed above): APEU, ACA, GMA, CAP, PAT, SIM, MAG, SOR, WYO, CAR, ITQ, MTB, MUR, NEP, ORI, RES, BSB, GJA, MOR, BIM, CATU, MOJU, MAN, ORO, JUR, MIR, KRI, AMB, DEN-3, CDU and mouse hepatitis virus. No reactions were noted [1] .
Strains 76V-25880 and 78V-213 were shown by both CF and PRNT to be identical [1] .

Section VI - Biologic Characteristics

Virus Source (all VERTEBRATE isolates)

Lab Methods of Virus Recovery (ALL ISOLATIONS)
Vero cell cultures

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)	
Vero (CL)	Orig.				6	Plaques	1.0**		
Vero (CL)	V1SM2				3	2 mm	6.1		
Vero (CL)	V1SM2V1				3	2 mm	7.5		
Duck embryo (PC)						No plaques			

** 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
Cx (Mel) taeniopus	1 *		State of Sao Paulo, Brazil
Cx (Mel) epanastasis	1 *		

* A total of 36,602 mosquitoes collected in Sao Paulo State were tested.

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)	SM2V1	ic	Paralysis, death	3-4	7.8
Mice (nb)		ip	Paralysis, death	5	5.7
Mice (nb)		sc			
Mice (wn)		ic	Paralysis, death	7	3.8
Mice (wn)		ip	None		
Mice (nb)	V1	ic	Paralysis, death	3	
Mice (nb)	V1SM1	ic	Paralysis, death	3	
Mice (nb)	V1SM2	ic	Paralysis, death	4	7.0
Mice (nb)	SM2	ic	Paralysis, death	5	

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)

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)
Brazil

Suspected (Antibody only detected)

Section XIII - References

1. Calisher, C.H. et al. 1983. Am. J. Trop. Med. Hyg. 32:424ö431.

Remarks