

Virus Name: Vellore		Abbreviation: VELV
Status Possible Arbovirus	Select Agent No	SALS Level 2
SALS Basis Results of SALS surveys and information from the Catalogue.		
Other Information		
Antigenic Group Paylam		

SECTION I - Full Virus Name and Prototype Number

Prototype Strain Number / Designation 68886	Accession Number	Original Date Submitted 11/12/1984
Family Reoviridae	Genus Orbivirus	
Information From Director, Virus Research Centre (VRC), Poona	Address 20-A, Wellesley Road, P.O. Box 11, Poona 1, India	
Information Footnote Reviewed by editor		

Section II - Original Source

Isolated By (name) D.E. Carey (1)	Isolated at Institute VRC-CMC Vellore, South India	
Host Genus Culex pseudovishnui and Culex sp. 3	Species	Host Age/Stage Adult
Sex Female		
<u>Isolated From</u>	<u>Isolation Details</u>	
Signs and Symptoms of Illness	Arthropod Engorged	
Time Held Alive before Inoculation		
Collection Method Sucking tube applied to indoor resting mosquitoes	Collection Date 7/18/1966	
Place Collected (Minimum of City, State, Country) Vellore, North Arcot District, Tamil Nadu, India		
Latitude 12° 55' N	Longitude 79° 8' E	
Macrohabitat	Microhabitat	Method of Storage until Inoculated Stored at -50dC
Footnotes		

Section III - Method of Isolation

Inoculation Date
8/19/1966

Animal (Details will be in Section 6)
nb mice

Route Inoculated
Intracerebral

Reisolation
No

Other Reasons
This is the first isolation of this agent

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 3.2 dex	Control Titer 3.8 dex
Lipid Solvent (deoxycholate)	After Treatment Titer 2.5 dex	Control Titer 3.8 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

Inclusion Bodies

Other

Hemagglutination

Hemagglutination

No

Antigen Source

SMB ext. by sucrose-acetone and alkaline aqueous

Erythrocytes (species used)

Goose

pH Range

5.7-7.6

pH Optimum

Temperature Range

27dC, 4dC, and 37dC

Temperature Optimum

Remarks

Serologic Methods Recommended

CF and NT

Footnotes

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

Related by CF to Palyam and Kasba viruses but distinct by neutralization test

Antigen	Immune Sera					
	Palyam		Kasba		Vellore	
	CF	NT	CF	NT	CF	NT
Palyam	256/64 ^a	>2.7 ^b	256/32	0.9	128/64	0.6
Kasba	128/16	1.4	256/64	>4.0	128/64	1.2
Vellore	128/16	0.7	128/32	1.0	128/64	>2.7

^a Serum titre/antigen titre

^b Log neutralization index in dex

Another virus, B8112 from Australia, has been found to be related to these viruses by CF test; neutralization tests indicated that virus B8112 was related but not identical to Vellore virus (information from Dr. Shope).

Section VI - Biologic Characteristics

Virus Source (all VERTEBRATE isolates)
Blood (M), blood (LV), organs (LV)

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)			No CPE					-			
Aedes albopictus (CL)			No CPE					+			
PS (CL)			CPE			Plaques (2)					

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
Man	None	1/16	Vellore, Tamil Nadu, India
Cattle	None	14/18	
Culex pseudovishnui and Culex sp. 3	1		

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 11	ic 0.02	Sickness and death		5.7
Mice (nb)		ip 0.03	No illness or death		
Mice (nb)		sc			
Mice (wn)		ic 0.03	No illness or death		
Mice (wn)		ip 0.03	No illness or death		

Section IX - Experimental Arthropod Infection and Transmission

Arthropod species & virus source(a)	Method of Infection log10/ml (b)		Incubation period (c)		Transmission 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) India
Suspected (Antibody only detected)

Section XIII - References

1. Meyers, R.M., et al. 1971. Ind. J. Med. Res. 59:1209-1213. 2. Cogate, S.S. 1976. Ind. J. Med. Res. 64:83-86.
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Remarks

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