

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

SECTION I - Full Virus Name and Prototype Number

Prototype Strain Number / Designation IG 2464	Accession Number	Original Date Submitted 10/16/1984
Family Not listed	Genus Not listed	
Information From Virus Research Centre (VRC)	Address 20A Wellesley Road, P.O. Box No. 11, Poona 1, India	
Information Footnote Reviewed by editor		

Section II - Original Source

Isolated By (name) VRC (1)	Isolated at Institute Vellore, South India	
Host Genus Culex vishnui, pool of 100 mosquitoes	Species	Host Age/Stage Adult
Sex Female		
<u>Isolated From</u>	<u>Isolation Details</u>	
Signs and Symptoms of Illness	Arthropod	
Time Held Alive before Inoculation		
Collection Method Aspiration of indoor resting mosquitoes	Collection Date 12/31/1955	
Place Collected (Minimum of City, State, Country) Venkatapuram, N. Arcot District, Madras, India		
Latitude 12° 57' N	Longitude 79° 12' E	
Macrohabitat Cattle shed	Microhabitat	Method of Storage until Inoculated Kept alive until processed
Footnotes		

Section III - Method of Isolation

Inoculation Date
1/1/1956

Animal (Details will be in Section 6)
nb mice

Route Inoculated Intracerebral	Reisolation No
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Other Reasons
This strain does not resemble any other virus handled at the VRC at that time.

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 <0.5 dex LD50	Control Titer 6.0 dex LD50
Lipid Solvent (deoxycholate) 1:1000	After Treatment Titer 2.5 log LD50	Control Titer 5.4 dex LD50
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, liver, serum; infected yolk sac (Sucrose-acetone (brain, liver, and infected yolk sac): acetone (serum).	Erythrocytes (species used) Goose**
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pH Range 5.4-7.6	pH Optimum
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Temperature Range 4d, 27d, 37dC	Temperature Optimum
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Remarks
CF reactivity of brain, liver, muscle and yolk sac sucrose-acetone preparations had not exceeded 1:4. ** And human group 'O'.

Serologic Methods Recommended

Footnotes
CF reactivity of brain, liver, muscle and yolk sac sucrose-acetone preparations had not exceeded 1:4. ** And human group 'O'.

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

A five injection mouse serum of IG 2464 was negative in CF testing with Nyando, Jurona, Bwamba (UG SE493), Congo-related (UG SE65), Palyam, Candiru, Piry, Pacui, Acara, Mossuril, Anopheles A, Lukuni, Sicilian, Wanowrie, Hart Park, VSV-Indiana, Nyamanini, Mapputta, Navarro, Tete, Wad Medani, Tacaribe, Anopheles B, Lebombo, Colorado tick fever, VSV-NJ, Witwatersrand, Irituia, Ganjam, Bwamba, Koongol, Quarafil, Chenuda, Tacaiuma. Potent CF antigen for G 2464 was not produced, thus no homologous CF titer was determined. (This information from the WHO International Reference Centre.)

Section VI - Biologic Characteristics

Virus Source (all VERTEBRATE isolates)
Pooled liver, spleen, brain (LV); liver (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)	
Chick embryo (PC)	P-26		No CPE					
MKTC (PC)			No CPE					
BS-C-1 (CL)			No CPE					
Vero (CL)					3	1.0 mm	6.3 (a) (2)	
LLC-MK2 (CL)					3	1.0 mm	6.3 (a) (2)	

(a) 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
Culex vishnui	1/10		Venkatapuram, Vellore, N. Arcot District, India

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)	SM 18	ic 0.02	Hind leg paralyses, death	5.5	7.1
mice (nb)		ip 0.03	None		
mice (nb)		sc			
mice (nb)		ic 0.03	None		
mice (nb)		ip 0.2	None		
Chick embryo (7 day)	P 26	ys 0.1	Death	4	8.9

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
Arthropods:	Virus multiplies in inoculated <i>Culex quinquefasciatus</i> , <i>Culex vishnui</i> , and <i>Aedes albopictus</i> and serially in passed in <i>C. quinquefasciatus</i> (4 passages) and <i>A. albopictus</i> (3 passages).								

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)
India
Suspected (Antibody only detected)

Section XIII - References

1. Dandawate, C.N., et.al. 1969. Ind. J. Med. Res. 57:1420-1426.
2. Stim, T.B. 1969. J. Gen. Virol. 5:329-338.

Remarks
