Virus Name: Tilligerry	Abbreviation: TILV

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
Eubenangee

SECTION I - Full Virus Name and Prototype Number

Prototype Strain Number / Designation
NB7080

Accession Number

Original Date Submitted
9/22/1984

Family
Reoviridae

Genus
Orbivirus

Information From
I.D. Marshall and G.M. Woodroofe

Address
Dept. Microbiology, JCSMR, Australian National University, Box 334, Canberra, A.C.T. 2601

Information Footnote
Reviewed by editor

Section II - Original Source

Isolated By (name)
I.D. Marshall, G.M. Woodroofe

Isolated at Institute
Canberra

Host Genus
Anopheles annulipes (1,2)

Species

Host Age/Stage
Adult

Sex
Female

Isolated From

Isolation Details

Signs and Symptoms of Illness

Arthropod
Depleted

Time Held Alive before Inoculation
Nil

Collection Method
Light trap and dry ice

Collection Date
4/22/1971

Place Collected (Minimum of City, State, Country)
Nelson Bay, New South Wales, Australia

Latitude
32° 43' S

Longitude
150° 5' E

Macrohabitat
Consolidated sand dunes, swamps; Port Stephens Peninsula

Microhabitat
Angophera, Banksia, Acacia spp. close to paperbark (Melaleuca) swamp

Method of Storage until Inoculated
Liquid nitrogen and Revco at -70dC

Footnotes

Section III - Method of Isolation

Inoculation Date
7/27/1971

Animal (Details will be in Section 6)
nb mice

Route Inoculated
ic-sc

Reisolation
Not tried

Other Reasons
Antigenically distinct from other viruses in this 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) **1:100**	After Treatment Titer **5.2 dex**	Control Titer **6.3 dex**

Other (formalin, radiation)

Virion Morphology

Shape **Orbivirus-like particles (3)**	Dimensions **63 + 4 nm**	
Mean nm	Range nm	
Measurement Method **Electron microscopy (3)**	Surface Projections/Envelope **Few enveloped particles (100 + 4 nm)**	Nucleocapsid Dimensions, Symmetry **See Reference 3**

Morphogenesis

Site of Constituent Formation in Cell	Site of Virion Assembly	Site of Virion Accumulation
	Intracytoplasmic fibrillogranular inclusions (2)	**See reference 3**

Inclusion Bodies

Other

Hemagglutination

Hemaggiutination	Antigen Source	Erythrocytes (species used)
No	**SMB ext. by sucrose-acetone**	**Gander**

pH Range
5.75-7.0

pH Optimum

Temperature Range
37dC

Temperature Optimum

Remarks

Serologic Methods Recommended
CF, NT

Footnotes

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

CF tests at JCSMR, QIMR and YARU indicated relationship only with the arboviruses Eubenangee and, more distantly, with Pata. Tilligerry is distinguished from Eubenangee by cross neutralization.

Immune Ascitic Fluid or Antigen	Tilligerry Antigen or Virus			Tilligerry Immune Ascitic Fluid		
	CF		NT	CF		NT
	Ht/Ho	Ratio	Ht/Ho	Ht/Ho	Ratio	Ht/Ho
Eubenangee	512/2048	1/4	0.6/2.0[a]	128/512	1/4	1.2/2.4
Pata	8/256	1/32	ND	8/64	1/8	ND

[a] LNI in dex

Section VI - Biologic Characteristics

Virus Source (all VERTEBRATE isolates)
Blood (M)(LV) (6-11)

Lab Methods of Virus Recovery (ALL ISOLATIONS)
Newborn and weanling 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)	
PS (CL)	SMB 4				7	1.5 mm	5.7 (b)		
Vero (CL)					7	2.0 mm	7.0		

(b) 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
Anopheles annulipes	1/270 (11 pools)		Mid-north coast, New South Wales, Australia (1, 2)

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)	SMB 4	ic 0.02	Paralysis, death	3	5.7
Mice (nb)		ip 0.03	Antibody, occasional death	5-13	<2.0
Mice (nb)		sc			
Mice (wn)		ic 0.02	Antibody		
Mice (wn)		ip 0.03	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
Aedes aegypti		c. 2.3 / mosquito	0	25			c. 1.3		ic nb mice
4th nb mouse brain			7				1.4-3.5		Range in 3 individually
			14				1.9-2.2		titrated mosquitoes

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)
Australia

Suspected (Antibody only detected)

Section XIII - References

1. Gard, G., et al. 1973. Am. J. Trop. Med. Hyg. 22:551-560.
2. Marshall, I.D., et al. 1980. Aust. J. Exp. Biol. Med. Sci. 58:91-102.
3. Schnagl, R.D., and Holmes, I.H. 1975. Aust. J. Biol. Sci. 28:425-432.

Remarks