Virus Name: Telok Forest	Abbreviation: TFV

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
Tanjong Rabok

SECTION I - Full Virus Name and Prototype Number

Prototype Strain Number / Designation
P72-4

Accession Number

Original Date Submitted
9/19/1984

Family
Not listed

Genus
Not listed

Information From
Albert Rudnick

Address
GW Hooper Foundation, University of California, San Francisco, California 94143

Information Footnote
Reviewed by editor

Section II - Original Source

Isolated By (name)
Arbovirus Unit, UC ICMR

Isolated at Institute
Kuala Lumpur, Malaysia

Host Genus
Wild Macaca nemestrina monkey

Species

Host Age/Stage
Young adult

Sex
Female

Isolated From	Isolation Details
Serum/Plasma	

Signs and Symptoms of Illness
None

Arthropod

Time Held Alive before Inoculation

Collection Method
Banana-baited sloping ground trap

Collection Date
1/4/1972

Place Collected (Minimum of City, State, Country)
Telok Forest Reserve, Selangor, Malaysia

Latitude
3° N

Longitude
101° 5' E

Macrohabitat
Fresh water peat swamp forest

Microhabitat
At ground level

Method of Storage until Inoculated
Revco cabinet at -70dC

Footnotes

Section III - Method of Isolation

Inoculation Date
1/11/1972

Animal (Details will be in Section 6)
nb mice

Route Inoculated
ic and ip

Reisolation
Yes

Other Reasons

Homologous Antibody Formation by Source Animal
Not tested

Test(s) Used
(released and not recaptured)

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 **6.5 dex**

Other (formalin, radiation)

Virion Morphology

Shape **Bunyavirus-like (3)**	Dimensions **78-108 nm**	
Mean nm	Range nm	
Measurement Method	Surface Projections/Envelope **observed**	Nucleocapsid Dimensions, Symmetry

Morphogenesis

Site of Constituent Formation in Cell	Site of Virion Assembly	Site of Virion Accumulation
Inclusion Bodies	Other	

Hemagglutination

Hemaggiutination **Yes**	Antigen Source **SMB ext. by sucrose-acetone**	Erythrocytes (species used) **Gander**
pH Range **5.7-6.8**	pH Optimum **6.4**	
Temperature Range	Temperature Optimum **Only 37dC tested**	

Remarks
Low titer

Serologic Methods Recommended
CF, HI, PRNT

Footnotes
Low titer

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

Telok Forest virus is related to Bakau and Ketapang viruses of the Bakau group and all three are related to Nola virus [3] .
Hyperimmune mouse sera for the following viruses failed to reduce Telok Forest plaques in Vero cells: BAK, BAT, BC, BEB, BHA, BWA, CI, CHP, CGL, CHIK, DEN-1, DEN-2, DEN-3, DEN-4, EEE, EMC, GAN, GET, herpesvirus, ILH, JUG, JE, KET, KTR, LGT, LJN, MAY, MIN, MVE, NTA, ONN, RR, SFN, SFS, SAT, SEL, SF, SIN, TR, TMU, UMB, WEE, WN, WSL, YF, AND ZIKA.
The Yale Arbovirus Research Unit reported that Telok Forest was negative by CF with 14 grouping fluids and did not react with 216 individual antigens, including LCM, NDV, rabies, reovirus, and vaccinia, except for its homologous [1] .
Subsequently, we found Telok Forest to be indistinguishable by CF from the ungrouped Tanjong Rabok virus (P8-1542 strain), which was isolated from the blood of a monkey captured in a nearby forest in Malaysia. The two viruses were distinguished by both HI and PRNT, showing no cross reaction.

Serum [1]	Antigen					
	Telok Forest			TR(P8-1542)		
	HAI [2]	CF [3]	PRNT [4]	HAI	CF	PRNT
Telok Forest	80	128	470	<10	128	<10
TR	<10	64	<10	320	64	400

[1] Hyperimmune mouse serum prepared with 5 ip inoculations.

[2] Reciprocal of highest serum dilution inhibiting 8 units of antigen.

[3] Serum titer

[4] Reciprocal of serum dilution showing 50% plaque reduction in Vero cells.

Section VI - Biologic Characteristics

Virus Source (all VERTEBRATE isolates)
Pool of CNS (LV), liver (LV), spleen (LV), kidney (LV)

Lab Methods of Virus Recovery (ALL ISOLATIONS)

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)	SMB-3	5	Complete	>3.0*	2	5-6 mm	8.3*		
Aedes albopictus(CL)	SMB-5		No CPE					+	
LLC-MK2 (CL)		3	CPE		4	1.2mm	8.5 (2)		
Vero (CL)		3	CPE		4	1.0 mm	8.4 (2)		
PS (CL)		4	CPE		6	1.0 mm	6.3 (2)		
C6/36 (CL)			No CPE (2)						

* 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
Macaca nemestrina (serum)	1/154	0/11 PRNT	Telok Forest, Selangor State, Malaysia
Great variety of mammal, bird reptile, amphibian, mosquito, and tick species	0/numerous		Malaysia
Man	0/numerous		

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-5	ic 0.01	Illness and death	3	8.6
Mice (nb)		ip			
Mice (nb)		sc			
Mice (wn)	SMB-5	ic 0.03	Illness and death	7	6.5
Mice (wn)		ip			

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)
Peninsular Malaysia

Suspected (Antibody only detected)

Section XIII - References

1. Director, YARU. Personal communication. 1976.
2. Calisher, C.H., et al. Personal communication. 1983.
3. Zeller, H. et al. 1989. II. Arch. Virol. Submitted.

Remarks