Virus Name: Trubanaman	Abbreviation: TRUV

Status
Possible Arbovirus

Select Agent
No

SALS Level
2

SALS Basis
Results of SALS surveys and information from the Catalogue.

Other Information

Antigenic Group
Mapputta

SECTION I - Full Virus Name and Prototype Number

Prototype Strain Number / Designation
MRM3630

Accession Number

Original Date Submitted
10/24/1984

Family
Bunyaviridae

Genus
Bunyavirus-like

Information From
R.L. Doherty

Address
Queensland Institute of Medical Research

Information Footnote
Reviewed by editor

Section II - Original Source

Isolated By (name)
Doherty and colleagues

Isolated at Institute
Queensland Institute of Medical Research Brisbane

Host Genus
Anopheles annulipes

Species

Host Age/Stage
Adult

Sex
Female

Isolated From

Isolation Details

Signs and Symptoms of Illness

Arthropod

Time Held Alive before Inoculation

Collection Method
Light trap

Collection Date
10/29/1965

Place Collected (Minimum of City, State, Country)
Mitchell River Mission, North Queensland, AS

Latitude
15° 28' S

Longitude
141° 40' E

Macrohabitat
At Aboriginal Mission 20 km. from Gulf of Carpentaria; altitude 6 m. in low-lying plain;

Microhabitat
Vegetation described as tropical tussock grassland and tropical woodland

Method of Storage until Inoculated
On solid CO2 or in Revco at -57dC

Footnotes

Section III - Method of Isolation

Inoculation Date
2/2/1966

Animal (Details will be in Section 6)
nb mice

Route Inoculated
Intracerebral

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) **50%**	After Treatment Titer **<3.0 dex**	Control Titer **6.4 dex**
Lipid Solvent (chloroform)	After Treatment Titer	Control Titer
Lipid Solvent (deoxycholate) **1:1000**	After Treatment Titer **<2.0 dex**	Control Titer **5.7 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

Hemaggiutination	Antigen Source	Erythrocytes (species used)
No	**SMB, blood, carcas, liver ext. by sucrose-acetone**	**Gander**
pH Range **6.0-7.6**	pH Optimum	
Temperature Range	Temperature Optimum	
Remarks		
Serologic Methods Recommended **CF, NT**		
Footnotes		

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

No hemagglutinin has been prepared from MRM3630, but mouse antiserum to the virus (after 3 or 4 weekly intraperitoneal inoculations) did not inhibit hemagglutination by Group A (Sindbis, Getah, Ross River), Group B (Murray Valley encephalitis) or Koongol group (Koongol, Wongal) antigens.
Complement-fixation tests (using mouse serum collected after 4 weekly intraperitoneal inoculations) showed a relationship to Mapputta virus (MRM186) but not to the following viruses isolated in Australia - Sindbis, Getah, Ross River, Murray Valley encephalitis, Kunjin, Kokobera, Edge Hill, Stratford, Koongol, Wongal, Corriparta, Kowanyama and Eubenangee or to Japanese B encephalitis, dengue virus, types 1-4 and Bebaru.
Neutralization tests showed no relation to any of the viruses previously isolated in Australia.

Virus or antigen	Serum			
	MRM3630		Mapputta (MRM186)	
	CF	NT	CF	NT
MRM3630	256/1024 [a]	>4.0 [b]	<8/<8	0.3
Mapputta (MRM186)	32/256	0.1	128/1024	>3.2

[a] Serum titre/antigen titre

[b] Log neutralization index of serum diluted 1:10, heated 56//30 min., and inoculated intraperitoneally into infant mice; expressed in dex.

Section VI - Biologic Characteristics

Virus Source (all VERTEBRATE isolates)

Lab Methods of Virus Recovery (ALL ISOLATIONS)
Newborn 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 3		CPE			Plaques	7.5*		
Vero (CL)			CPE			Plaques	7.5		

* 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	1/4,134		Mitchell River, N. Queensland, AS; 1960-66 (1)
Man		9/227 NT	Queensland, various centres (2)
Cattle		7/197 NT	
Sheep		1/38 NT	
Bandicoot (marsupial)		0/41 NT	
Wallabies		34/70 NT	
Horse		25/55 NT	
Pig		2/34 NT	
Goat		0/8 NT	
Kangaroo		21/53 NT	
Rat sp.		0/56 NT	
Pteropus sp. (bat)		0/4 NT	
Bat		0/8 NT	
Domestic fowl		1/59 NT	
Wild birds		0/35 NT	
An annulipes	4		Barmah Forest, Victoria, AS (4)

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 3	ic 0.015	Death	3-5	8.9
Mice (nb)		ip 0.03	Death	5-6	7.8
Mice (nb)		sc			
Mice (wn)		ic 0.03	Death	6-10	8.2
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
Culex quinquefasciatus intrathroacically inoculated; virus content per mosquito increased to 4.3 dex LD50 10 days after inoculation; attempts to maintain virus by serial salivary gland passage were unsuccessful (3).									

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)
North Queensland; Victoria, Australia

Suspected (Antibody only detected)

Section XIII - References

1. Doherty, R.L., et al. 1968. Trans. R. Soc. Trop. Med. Hyg. 62:430-438.
2. Doherty, R.L., et al. 1970. Trans. R. Soc. Trop. Med. Hyg. 64:748-753.
3. Carley, J.G. and Standfast, H.A. Personal communication. 1967.
4. Marshall, I.D. 1984. Unpublished data.

Remarks