

<b>Virus Name: Mapputta</b>		<b>Abbreviation: MAPV</b>
Status <b>Possible Arbovirus</b>	Select Agent <b>No</b>	SALS Level <b>2</b>
SALS Basis <b>Results of SALS surveys and information from the Catalogue.</b>		
Other Information		
Antigenic Group <b>Mapputta</b>		

**SECTION I - Full Virus Name and Prototype Number**

Prototype Strain Number / Designation <b>MRM 186</b>	Accession Number	Original Date Submitted <b>2/5/1985</b>
Family <b>Bunyaviridae</b>	Genus <b>Bunyavirus-like</b>	
Information From <b>R.L. Doherty</b>	Address <b>Queensland Institute of Medical Research, Herston Rd., Herston N9, Brisbane</b>	
Information Footnote <b>Reviewed by editor</b>		

**Section II - Original Source**

Isolated By (name) <b>Doherty, et al. (1)</b>	Isolated at Institute <b>Brisbane</b>	
Host Genus <b>Anopheles meraukensis</b>	Species	Host Age/Stage <b>Adult</b>
Sex <b>Female</b>		
<u>Isolated From</u>	<u>Isolation Details</u>	
Signs and Symptoms of Illness	Arthropod	
Time Held Alive before Inoculation		
Collection Method <b>Aspirated from man or horse</b>	Collection Date <b>4/8/1960</b>	
Place Collected (Minimum of City, State, Country) <b>Mitchell River Mission, Queensland, AS</b>		
Latitude <b>15° 30' S</b>	Longitude <b>141° 40' E</b>	
Macrohabitat <b>Low-lying plain bordering Gulf of Carpentaria; open forest-grassland</b>	Microhabitat <b>On bank of creek on edge of aboriginal mission;mosquitoes were pooled from two areas on outskirts</b>	Method of Storage until Inoculated <b>Dry ice and Revco</b>
Footnotes		

**Section III - Method of Isolation**

Inoculation Date <b>9/30/1960</b>	
Animal (Details will be in Section 6) <b>nb mice</b>	
Route Inoculated <b>Intracerebral</b>	Reisolation <b>No</b>
Other Reasons	
Homologous Antibody Formation by <u>Source Animal</u>	
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)	
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<b><u>Stability of Infectivity (effects)</u></b>		
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) <b>1:500</b>	After Treatment Titer <b>&lt;2.0 dex</b>	Control Titer <b>5.6 dex</b>
Other (formalin, radiation)		
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<b><u>Virion Morphology</u></b>		
Shape	Dimensions <b>Passes 200 nm regularly; 100 nm on several occasions</b>	
Mean nm	Range nm	
Measurement Method <b>Millipore filtration</b>	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      Antigen Source      Erythrocytes (species used)  
**No**      **SMB; blood; liver; and carcass ext. by sucrose-  
acetone; acetone-ether**      **Goose**

pH Range      pH Optimum

Temperature Range      Temperature Optimum

Remarks

Serologic Methods Recommended  
**CF, NT**

Footnotes

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

Queensland studies:

No relationship by CF or neutralization test: MVE, Kunjin, Kokobera, Edge Hill, Sindbis, Koongol, Wongal, Corriparta, Getah or Bebaru viruses. Antigenically related by CF test to Trubanaman virus, MRM 3630 [4].

Rockefeller Foundation Virus Laboratory studies:

CF antigen (homologous system titers 128/512) tested against known potent antisera to the following viruses, with no relationships demonstrated: Catu, Simbu, Pongola, Chenuda, Turlock, Tacaiuma, SF Naples, SF Sicilian, Rift Valley Fever (Lunyo), Quarantfil, Bwamba, Wad Medani, Wyeomyia, Kairi, Manzanilla, Oropouche, Guaroa, Anopheles A, Ketapang, Umbre, Lebombo, California encephalitis, Colorado tick fever, Witwatersrand, Bakau, Nyamanini, Tahyna, Junin, Guama, Mirim, Hart Park, Nepuyo, An 20076, Capim, Guajara, Aruac, Ieri, Trinita, Lukuni, Anopheles B, Navarro, Akabane.

**Section VI - Biologic Characteristics**

Virus Source (all VERTEBRATE isolates)

Lab Methods of Virus Recovery (ALL ISOLATIONS)

Blood (LV)(M), cerebro spinal fluid (M), CNS (LV), spleen (LV), Newborn and weanling mice, sheep and pig (1)  
skeletal muscles (LV) and sciatic nerve (LV)

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)	
PS (CL)			CPE or plaques (6)					
BHK-21 (CL)			CPE or plaques (6)					
Vero (CL)			CPE or plaques (6)					
VSW (CL)			CPE or plaques (6)					
Vero (CL)	P-8				6	3 mm	6.0* (7)	
LLC-MK2 (CL)					8	1 mm	5.5 (7)	

\* 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 meraukensis	2/298 *		Mitchell River Mission, Queensland, AS, 1960

\* Neither virus reisolated.

NOTE: Neutralizing antibody detected in serum from man, cattle, horses, pigs, kangaroos, wallabies, and rats from Queensland (5).

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 <sub>10</sub> /ml	
Mice (nb)	MB 3	ic 0.01	Death	4.0	9.0	
Mice (nb)		ip 0.03	Death	5.0	7.2	
Mice (nb)		sc				
Mice (wn)		ic 0.03	Death	6.5	8.9	
Mice (wn)		ip 0.03	Antibody production only			
embryonated eggs (7 days)		ys 0.1	No deaths at 10-2 dilution (2)			
embryonated eggs (11 days)		CAM 0.05	Pocks; no deaths at 10-2 dilution (2).		4.8	



### Section XIII - References

1. Doherty, R.L., et al. 1963. Aust. J. Exp. Biol. Med. Sci. 41:17-40.
2. Carley, J.G. Personal communication. 1963.
3. Standfast, H.A. and Carley, J.G. Personal communication. 1963.
4. Doherty, R.L., et al. 1968. Trans. R. Soc. Trop. Med. Hyg. 62:430-438.
5. Doherty, R.L., et al. 1970. Trans. R. Soc. Trop. Med. Hyg. 64:748-753.
6. Queensland Inst. Med. Res. 1971. Unpublished observations.
7. Stim, T.B. 1969. J. Gen. Virol. 5:329-338.

### Remarks