

Virus Name: Berrimah		Abbreviation: BRMV
Status Possible Arbovirus	Select Agent No	SALS Level
SALS Basis		
Other Information		
Antigenic Group Bovine Ephemeral Fever		

SECTION I - Full Virus Name and Prototype Number

Prototype Strain Number / Designation DPP63	Accession Number	Original Date Submitted 4/27/1984
Family Rhabdoviridae	Genus	
Information From Dr. G.P. Gard	Address Dept. Primary Production, Berrimah Laboratory, Box 4160, Darwin, Australia	
Information Footnote		

Section II - Original Source

Isolated By (name) Dr. G.P. Gard	Isolated at Institute Dept. Primary Production, Darwin	
Host Genus Bovine, sentinel	Species	Host Age/Stage 2 years
Sex Male		
<u>Isolated From</u>	<u>Isolation Details</u>	
Whole Blood		
Signs and Symptoms of Illness None	Arthropod	
Time Held Alive before Inoculation		
Collection Method Blood collected by venipuncture	Collection Date 4/4/1981	
Place Collected (Minimum of City, State, Country) Berrimah, Northern Territory, Australia		
Latitude 12° 26' S	Longitude 130° 55' E	
Macrohabitat	Microhabitat	Method of Storage until Inoculated 4dC
Footnotes		

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)

pH Range

pH Optimum

Temperature Range

Temperature Optimum

Remarks

Serologic Methods Recommended

NT, IF, CF

Footnotes

Cross-neutralization tests with the Australian bovine ephemeral fever (BEF) group viruses

Virus	Antiserum			
	Standard BEF ^a	Kimberley	Berrimah	Adelaide River
Standard BEF ^a	812	<2	<2	<2
Kimberley ^b	<2	1622	<2	<2
Berrimah ^c	20	<2	1622	<2
Adelaide River	<2	<2	<2	4096

Neutralization titres represent reciprocal of the highest dilution neutralizing 50% of 100 TCD50.

^a Strain BB7721, Doherty et al.

^b Strain OR250, Liehne et al.

^c Strain DPP63, Gard et al.

Cross-Immunofluorescence of BEF Group Viruses

Antigen	Antiserum			
	BEF	KIM	ADE	BRM
BEF	4+	4+	3+	4+
Kimberley	3+	4+	1+	4+
Adelaide River	2+	2+	4+	–
Berrimah	4+	4+	1+	4+

Degree of specific fluorescence with 1:8 antiserum;

– = negative.

Section VI - Biologic Characteristics

Virus Source (all VERTEBRATE isolates)
Blood (LV)

Lab Methods of Virus Recovery (ALL ISOLATIONS)
BHK-21 cell cultures

Cell system (a)	Virus passage history (b)	Evidence of Infection							Growth Without CPE +/- (g)
		CPE			PLAQUES				
		Day (c)	Extent (d)	Titer TCD50/ml (e)	Day (c)	Size (f)	Titer PFU/ml (e)		
BHK-21 (CL)	BHK 9	3	100%	4.5*					
Vero (CL)		2	50%	3.5	5	2 mm			
Aedes albopictus(CL)		6	No CPE	4.5				+	

* 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
Cattle (blood)	1/>5,000		Northern Territory, Australia
Cattle			Prevalence uncertain because of antigenic overlap with BEF
Culex annulirostris	0/779 pools		North Western Australia
Culicoides brevitarsi	0/>1,000 pools		SE Queensland, Australia

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)	BHK 9	ic	Paralysis and death	6-7	
Mice (nb)		ip			
Mice (nb)		sc			
Mice (wn)		ic			
Mice (wn)	BHK 9 SMB 2	ip	Antibody		

Section IX - Experimental Arthropod Infection and Transmission

Arthropod species & virus source(a)	Method of Infection log10/ml (b)		Incubation period (c)		Transmission by bite (d)		Assay of arthropod, log10/ml (e)		
	Feeding	Injected	Days	°C	Host	Ratio	Whole	Organ	System
Aedes aegypti; BHK 9		2.0	8	25			6.0		Titration and virus isolation in BHK-21 cells

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) Australia
Suspected (Antibody only detected)

Section XIII - References

1. Doherty, R.L., et al. 1973. Aust J. Sci. 31:365-366. 2. Liehne, P.F.S., et al. 1981. Aust. J. Exp. Biol. and Med. Sci. 59:347-356. 3. Gard, G.P., et al. 1983. Aust. Vet. J. 60:89.
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Remarks
