Virus Name: Kununurra	Abbreviation: KNAV

Status
Possible Arbovirus

Select Agent
No

SALS Level
2

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

Other Information

Antigenic Group
Ungrouped

SECTION I - Full Virus Name and Prototype Number

Prototype Strain Number / Designation
Or 194

Accession Number

Original Date Submitted
8/24/1984

Family
Rhabdoviridae

Genus
Not listed

Information From
N.F. Stanley

Address
Dept. Microbiol., Univ. of Western Australia, Perth, Western Australia, 6008

Information Footnote
Reviewed by editor

Section II - Original Source

Isolated By (name)
N.F. Stanley

Isolated at Institute
Perth, Western Australia

Host Genus
Aedeomyia catasticta, pool of 39 mosquitoes (1)

Species

Host Age/Stage
Adults

Sex
Female

Isolated From

Isolation Details

Signs and Symptoms of Illness

Arthropod
Engorged

Time Held Alive before Inoculation

Collection Method
Chicken-baited trap

Collection Date
4/15/1973

Place Collected (Minimum of City, State, Country)
Kununurra, Western Australia

Latitude
128° 45' S

Longitude
15° 47' E

Macrohabitat
Open forest and grassland

Microhabitat
Near helicopter pad on the bank of lagoon 1 kilometer from town-site

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

Footnotes

Section III - Method of Isolation

Inoculation Date
11/8/1973

Animal (Details will be in Section 6)
nb mice

Route Inoculated
Intracerebral

Reisolation
No

Other Reasons
First virus of this type in laboratory

Homologous Antibody Formation by Source Animal

Test(s) Used

Footnotes

Section IV - Virus Properties

Physicochemical
RNA, Single Strand

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) **1.1**	After Treatment Titer **<1.0 dex**	Control Titer **4.7 dex**
Lipid Solvent (chloroform)	After Treatment Titer	Control Titer
Lipid Solvent (deoxycholate) **1:1000**	After Treatment Titer **<1.0 dex**	Control Titer **4.5 dex**

Other (formalin, radiation)

Virion Morphology

Shape **Bullet-shaped**	Dimensions **70 x 130 nm**	
Mean nm	Range nm	
Measurement Method **Electron microscope**	Surface Projections/Envelope	Nucleocapsid Dimensions, Symmetry

Morphogenesis

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

Hemagglutination

Hemaggiutination	Antigen Source	Erythrocytes (species used)
No	**SMB ext. by sucrose-acetone**	**Gander**
pH Range	pH Optimum	
5.9 - 7.4		
Temperature Range	Temperature Optimum	
37dC		

Remarks
*** By acridine orange staining.**

Serologic Methods Recommended
CF

Footnotes
*** By acridine orange staining.**

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

Antigen of isolate Or 194 failed to react in CF tests with immune sera to the following viruses:

Aino (48/>160) [a]; Almpiwar (>48/>160); Belmont (24/>160); bovine ephemeral fever (12/80); Corriparta (6/>160); D'Aguilar (6/>160); Eubenangee (24/>160); Johnston Atoll (12/>160); Kowanyama (48/>160); Kunjin (12/>160); Mapputta (>48/>160); Mitchel River (12/>160); Nugget (6/>160); Sindbis (12/>160); Taggert (6/>160); Trubanaman (>40/80); Upolu (24/>160); Wongorr (12/80); Charleville (>48/>160); Joinjakaka (>48/>160); Ngaingan (24/>160); Wallal (24/40); Wongal (>48/80).
Homologous reactivity of Kununurra virus system was 40/80.

Antigen Or 194 also failed to react in CF tests with immune ascitic grouping fluids obtained from National Institute of Health, Bethesda, Maryland, USA.

Group C	Polyvalent Patois	Polyvalent 5
Group Guama	Group Capim	Polyvalent 6
Group Simbu	Polyvalent Palyam	Polyvalent 7
Group VSV	Group Kemerovo	Polyvalent 8
Group Bunyamwera	Polyvalent Congo	Polyvalent 9
Group California	Polyvalent 1	Polyvalent 10
Group Tacaribe	Polyvalent 2	Polyvalent 12
Group Phlebotomus	Polyvalent 3	Polyvalent Rabies
Polyvalent Anopheles A	Polyvalent 4	
Polyvalent Bwamba		

[a] Antigen titer/serum titer.

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)	
Vero (CL)	SMB 4, TC 3	3	3+	5.7 (b)	4	0.5-1mm	6.7 (b)		
BHK-21 (CL)		2	3+	5.3					
PS (CL)			No CPE					-	
E6 (CL)		1	CPE	6.9 (2)					
C6/36 (CL)		2-3	CPE	6.5 (2)					

(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
Aedeomyia castasticta	1/485 pools (23,872 mosquitoes)		Ord River valley, Kununurra, Western 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)	SMB 4	ic 0.01	Death	4-5	6.55
Mice (nb)		ip 0.03	Death and paralysis	6-10	
Mice (nb)		sc 0.03	Death and paralysis	7-10	
Mice (wn)		ic 0.02	Death	7-11	
Mice (wn)		ip 0.03	No deaths		
Mice (1 wk)		ic 0.02	Death	4-6	
Mice (1 wk)		ip 0.03	No deaths		

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)
Western Australia (1)

Suspected (Antibody only detected)

Section XIII - References

1. Liehne, C.G., et al. 1976. Aust. J. Exp. Biol. Med. Sci. 54(5):499-504.
2. Kerschner, J. Personal communication. 1983.

Remarks