Virus Name: Ngari	Abbreviation: NRIV

Status
Probable Arbovirus

Select Agent
No

SALS Level

SALS Basis

Other Information

Antigenic Group
Bunyamwera

SECTION I - Full Virus Name and Prototype Number

Prototype Strain Number / Designation
DAKArD 28542

Accession Number

Original Date Submitted
12/5/1985

Family

Genus
Bunyavirus

Information From
J.P. Digoutte and G. Heme

Address
Institut Pasteur, BP 220 Dakar, Senegal

Information Footnote

Section II - Original Source

Isolated By (name)
J.J. Salaun and M. Germain (1)

Isolated at Institute
Dakar, Senegal

Host Genus
Aedes simpsoni (males) from eggs collected in nature

Species

Host Age/Stage
Adults

Sex
Male

Isolated From

Isolation Details

Signs and Symptoms of Illness

Arthropod

Time Held Alive before Inoculation

Collection Method

Collection Date
1/4/1979

Place Collected (Minimum of City, State, Country)
10 km from Kedougou, Senegal

Latitude
12° 36' N

Longitude
12° 15' W

Macrohabitat
Sub-Sudanese savannah

Microhabitat
Forest gallery

Method of Storage until Inoculated
Mechanical freezer at -70dC

Footnotes

Section III - Method of Isolation

Inoculation Date

Animal (Details will be in Section 6)
nb mice

Route Inoculated	Reisolation
Intracerebral	**Not tried**

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)	After Treatment Titer	Control Titer
Lipid Solvent (chloroform)	After Treatment Titer **2.8 dex**	Control Titer **8.6 dex**
Lipid Solvent (deoxycholate)	After Treatment Titer	Control Titer

Other (formalin, radiation)

Virion Morphology

Shape	Dimensions **<220 nm**	
Mean nm	Range nm	
Measurement Method **Millipore filtration**	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 **Yes**	Antigen Source **SMB ext. by sucrose-acetone**	Erythrocytes (species used) **Goose**
pH Range **5.0-6.6**	pH Optimum **6.2**	
Temperature Range	Temperature Optimum **Room temperature**	

Remarks
Usual titer = 160

Serologic Methods Recommended
CF, NT

Footnotes
Usual titer = 160

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

Insitut Pasteur Dakar

CF test-homologous titer = 256/8.

DAKArD 28542 gives positive results with the following immune fluids: Bunyamwera, Ilesha, Shokwe, Biaro, ArD 7343 (Bozo), ArY 357 (Mboke).
Neutralization test eith these viruses gives the following results by the plaque-reduction method on Vero cells.

ANTISERA	VIRUS						
	Ngari	Bunyamwera	Ilesha	Shokwe	Biaro	Bozo(ArB 7343)	Mboke (ArY 357)
Ngari (ArD 28542)	256 *	0	0	0	0	0	0
Bunyamwera	0	256	0	0	0	0	0
Ilesha	0	0	256	0	0	0	0
Shokwe	0	0	0	128	0	0	0
Biaro	0	0	0	0	128	0	0
ArB 7434	0	0	0	0	0	512	0
ArY 357	0	0	0	0	0	0	256

* Reciprocal of highest antiserum dilution producing > 90% plaque inhibition; 0 = <16.

Results indicate that DAKArD 28542 is apparently a new virus.

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)	SM 4	2-3	CPE		3	2	6.4 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
Aedes simpsoni (males)	1		Kendougou, Senegal
Aedes vittatus	2		Kendougou, Senegal
Aedes neoafricanus	1		Kendougou, Senegal
Aedes Argenteopunctatus	1		Kendougou, Senegal
Anopheles gambiae	5		Burkino Faso (2)
Anopheles gamibiae	1		Bozo, Central African Republic (2)
Anopheles mascarensis	1		Madagascar (2)

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)	SM 4	ic	Death	2	10.3
" (nb)		ip	Death	3	
" (nb)		sc			
" (wn)		ic	Death	6	
" (wn)		ip	Antibodies		

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)
Senegal, Burkino Faso, Central African Republic, Madagascar

Suspected (Antibody only detected)

Section XIII - References

1. Institut Pasteur Dakar Annual Report. 1980.
2. Institut Pasteur Dakar Annual Report. 1984.

Remarks