Virus Name: Mboke	Abbreviation: MBOV

Status
Possible 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
DakArY 357

Accession Number

Original Date Submitted
12/1/1985

Family

Genus
Bunyavirus

Information From
G. LeGonidec and Arbovirus Re. Centre

Address
Institut Pasteur Paris and Institut Pasteur Dakar, BP 220, Dakar, Senegal

Information Footnote

Section II - Original Source

Isolated By (name)
R. Boche and A. Richenbach

Isolated at Institute
Institut Pasteur du Cameroon, Yaounde

Host Genus
Aedes (Finlaya) ingrami

Species

Host Age/Stage
Adult

Sex
Female

Isolated From

Isolation Details

Signs and Symptoms of Illness

Arthropod

Time Held Alive before Inoculation

Collection Method
Human bait

Collection Date
11/19/1970

Place Collected (Minimum of City, State, Country)
Mboke, Cameroon

Latitude
4° 19' N

Longitude
12° 37' E

Macrohabitat
Semi-deciduous forest

Microhabitat
In a tree, 4 meters above ground level, on a banana plantation at the edge of the forest

Method of Storage until Inoculated
Liquid nitrogen

Footnotes

Section III - Method of Isolation

Inoculation Date
12/7/1970

Animal (Details will be in Section 6)
nb mice

Route Inoculated
Intracerebral

Reisolation
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 **2.2 dex**	Control Titer **6.5 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 filter; After filtration = 6.5 dex, cont**	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 **5.7-6.6**	pH Optimum **6.2**	
Temperature Range	Temperature Optimum **Room temperature**	

Remarks
Titers usually = 320

Serologic Methods Recommended
CF, NT

Footnotes
Titers usually = 320

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

Institut Pasteur Dakar, J.P. Digoutte and G. Heme

CF test-homologous titer = 32/128

ArY 357 gives positive results with the following immune fluids: Bunyamwera, Ilesha, Shokwe, Birao, ArB 7343 (Bozo), ArD 28542 (Ngari)
Neutralization tests with these viruses gives the following results by the plaque-reduction technique on Vero cells.

ANTISERA	VIRUS						
	MBOKE	BUNYAMWERA	ILESHA	SHOKWE	BIRAO	BOZO (ArB 743)	NGARI (ArD28542)
Mboke (ArY 357)	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
Bozo (ArB 7343)	0	0	0	0	0	512	0
Ngari (ArD 28542)	0	0	0	0	0	0	256

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

Results indicate that DAKArY 357 apparently is a new virus.

Section VI - Biologic Characteristics

Virus Source (all VERTEBRATE isolates)
Blood (LV)

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 6				2	3 mm	7.1 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 (Fin) ingrami	1		Mboke, Cameroon (1)

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 6	ic	Illness, death	2-3	8.2
"" (nb)		ip	Illness, death	4	
"" (nb)		sc			
"" (wn)		ic	Illness, death	11	
"" (wn)		ip	Illness, death	9	

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)
Cameroon

Suspected (Antibody only detected)

Section XIII - References

1. Centre Collaborateur OMS De Reference Et De Recherche Sur Les Arbovirus. Institut Pasteur, Dakar, Senegal. Institut Pasteur Dakar Annual Report. 1972.

Remarks