Virus Name: Mobala	Abbreviation: MOBV

Status
Probably not Arbovirus

Select Agent
No

SALS Level

SALS Basis

Other Information

Antigenic Group
Tacaribe

SECTION I - Full Virus Name and Prototype Number

Prototype Strain Number / Designation
MOB/3076

Accession Number

Original Date Submitted
1/16/1990

Family

Genus
Arenavirus

Information From
Jean Paul Gonzalez

Address
ORSTOH 213 Rue Lafayette 75480 Paris Cedex 10, France

Information Footnote

Section II - Original Source

Isolated By (name)
Jean Paul Gonzalez

Isolated at Institute
CDC Atlanta (1)

Host Genus
Praomys sp

Species

Host Age/Stage
Adult

Sex
Male

Isolated From	Isolation Details
Whole Blood	
Serum/Plasma	
Organs/Tissues	

Signs and Symptoms of Illness
No

Arthropod

Time Held Alive before Inoculation

Collection Method

Collection Date

Place Collected (Minimum of City, State, Country)
Bouboui, Central African Republic

Latitude
4° 36' N

Longitude
18° 19' E

Macrohabitat
Wooded savannah

Microhabitat

Method of Storage until Inoculated
-70dC

Footnotes

Section III - Method of Isolation

Inoculation Date
6/30/1981

Animal (Details will be in Section 6)
(Tissue Culture)

Route Inoculated

Reisolation
Yes

Other Reasons

Homologous Antibody Formation by Source Animal
Yes

Test(s) Used
IFA (1), RIA (1)

Footnotes

Section IV - Virus Properties

Physicochemical
RNA, Single Strand

Pieces (number of genome segments)
2 (2)

Infectivity

Sedimentation Coefficients(s)
30; 25(S)

Percentage wt, of Virion Protein

Lipid

Carbohydrate

Virion Polypeptides: Number
3

Details
Nucleocapsid associated protein NC = 60 K; Glycoprotein GP1 = 48K; GP2 = 37K (2)

Non-virion Polypeptides: Number

Details

Virion Density

Sedimentation Coefficients(s)
(S)

Nucleocapsid Density
1.32 g/ml (2) in CsCl

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

Control Titer

Lipid Solvent (deoxycholate)

After Treatment Titer

Control Titer

Other (formalin, radiation)

Virion Morphology

Shape
Spherical (2)

Dimensions

Mean
105nm

Range
67-250nm

Measurement Method
Electron microscopy (2)

Surface Projections/Envelope
Envelope present

Nucleocapsid Dimensions, Symmetry

Electron Microscopy (2) | **Envelope present** | **Symmetry**

Morphogenesis

Site of Constituent Formation in Cell	Site of Virion Assembly	Site of Virion Accumulation
Cytoplasm (2)	**Plasma membrane**	**Ergastoplasmic space**

Inclusion Bodies	Other
Intracytoplasmic inclusions (2)	

Hemagglutination

Hemaggiutination	Antigen Source	Erythrocytes (species used)
Not tried		

pH Range	pH Optimum

Temperature Range	Temperature Optimum

Remarks

Serologic Methods Recommended
Immunofluorescent antibody test

Footnotes

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

IFA: not related to CCHF, RVF, Ebola, Marburg, Hanta. Related to Lassa, LCM, Mopela, Ippy but distinguishable by monoclonal antibody generated against NP and GP of Lassa and Mopela [1] - [4] .

IFA REACTIONS OF 9 CENTRAL AFRICAN REPUBLIC (CAR) MOBALA VIRUS STRAINS TO MONOCLONAL ANTIBODIES MADE AGAINST LASSA, MOZAMBIQUE (MOZ) AND LCM ANTIGENS.

	9 Strains of Mobala virus	Antigen		
Antibody	**Lassa**	**MOZ**	**LCH**	
Human anti-lassa serum	+	+	+	+
Monoclonal antibodies				
Lassa specific (5) [a]	0/5 [b]	5/5	0/5	1/4 [c]
MOZ specific (2)	0/2	0/2	2/2	0/2
Lassa and MOZ spec. (11)	9/11	11/11	11/11	6/9 [c]
LCM (2)	0/2	1/2	2/2	2/2

[a] Number in parentheses is the number of monoclones tested.

[b] Number of monoclones reacting to antigen over number of monoclones tested.

[c] 1 Lassa specific and 2 Lassa and MOZ monoclones not tested against LCM.

Neutralization tests by the log neutralization index (LNI) method readily differentiated Mobala virus in both directions from 3 strains of Lassa, Mopela and LCM viruses [9] .

Relationships among Old World arenaviruses by the neutralization test (log neutralization index determined by reduction of plaques) [9] .

			Guinea pig immune serum	LNI of antiserum against virus from				
Virus	Strain	Origin	SL.	LIB/G	NIG	MOZ	CA	LCM
Lassa	Josiah	Sierra Leone (SL)	3.6	3.5	1.0	1.4	0.7	0.8
Lassa	Z-158	Liberia/Guinea (LIB/G)	2.6	3.5	1.5	1.5	1.2	0.4
Lassa	JW	Nigeria (NIG)	1.2	1.4	3.6	1.0	0.2	0.5
Mopeia	20410	Mozambique (MOZ)	<0.3	<0.3	<0.3	2.4	0.6	<0.3
Mobala	3080	Central Africa (CA)	<0.3	<0.3	<0.3	0.3	2.2	<0.3
LCM	Armstrong	USA	<0.3	<0.3	<0.3	<0.3	0.6	3.9

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(E6) (CL)	P-5	5	CPE syncitia		5	1.5-3mm	6.0 dex(6)	CPE
BHK-21(CL)	P-5				5	1.5-3mm	5.0 dex	CPE

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
Praomys sp.	30/149	9/9 IFA	Central African Republic
Mastomys sp.	1/50	1/1 IFA	
Arvicanthis sp.	2/29	2/2 IFA	
Hylomyscus sp.	1/13	1/1 IFA	
Mus (Leggada) sp.	0/41		
Rattus rattus	0/5		
Lophuromys sp.	0/5		
Lemniscomys sp.	O/5		
Dephomys sp.	0/3		
Malacomys sp.	0/1		
Oenomys sp.	0/1		
Stochomys sp.	0/2		
Thamnomys sp.	0/4		
Aethomys sp.	0/4		
Soricidae (shrew family)	0/1		
Micropteropus sp.	0/2		
Xenopsilla sp.	0/22		
Horses	0/20		
Humans	0/7		
Mastomys sp.	0/126	4/126 IFA	Cameroon (7)

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
Suckling mice	P-5	3.8 dex ip	death (30%)	3-12	
mice (nb)		ic			
""(nb)		ip			
""(nb)		sc			
""(wn)		ic			
""(wn)		ip			

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)
Central African Republic (5)

Suspected (Antibody only detected)
Cameroon, Chad, Senegal (7)

Section XIII - References

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Remarks