Virus Name: Saboya	Abbreviation: SABV

Status
Possible Arbovirus

Select Agent
No

SALS Level
2

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

Other Information

Antigenic Group
B

SECTION I - Full Virus Name and Prototype Number

Prototype Strain Number / Designation
DakAnD 4600

Accession Number

Original Date Submitted
11/17/1984

Family
Flaviviridae

Genus
Flavivirus

Information From
Arbovirus Reference Centre

Address
Institut Pasteur, BP 220, Dakar, Senegal

Information Footnote
Reviewed by editor

Section II - Original Source

Isolated By (name)
Institut Pasteur

Isolated at Institute
Dakar, Senegal

Host Genus
Tatera kempi (gerbil)

Species

Host Age/Stage
Adult

Sex
Female

Isolated From	Isolation Details
Whole Blood	

Signs and Symptoms of Illness

Arthropod

Time Held Alive before Inoculation

Collection Method
Trapped

Collection Date
2/22/1968

Place Collected (Minimum of City, State, Country)
Saboya, Senegal

Latitude
13° 36' N

Longitude
16° 25' W

Macrohabitat
Farmed areas in sparse forest around mangrove gallery at sea level; tropical.

Microhabitat
Millet and peanuts plantations

Method of Storage until Inoculated
Revco at -75dC

Footnotes

Section III - Method of Isolation

Inoculation Date
9/10/1968

Animal (Details will be in Section 6)
nb mice

Route Inoculated
Intracerebral

Reisolation
Yes

Other Reasons
First virus of this type in laboratory

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) **1:100**	After Treatment Titer **4.3 dex**	Control Titer **8.1 dex**
Lipid Solvent (deoxycholate)	After Treatment Titer	Control Titer

Other (formalin, radiation)

Virion Morphology

Shape	Dimensions	
Mean nm	Range nm	
Measurement Method	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 **6.2-6.8**	pH Optimum **6.6**	
Temperature Range **Room temperature**	Temperature Optimum	

Remarks

Serologic Methods Recommended
CF, HI, NT

Footnotes

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

CF tests. Homologous titer = 64/16.

D 4600 gave negative results with the following immune fluids:

Group A;	chikungunya, o'nyong-nyong, Semliki Forest virus, Sindbis, Middelburg, Ndumu.
Group B;	Ntaya, Wesselsbron, Usutu, DakArY 276, West Nile, yellow fever, Zika, Spondweni, Bukalasa bat, DakArB 209, DakArY 310, Entebbe bat, Montana Myotis leukoencephalitis, dengue 1, 2, 3, 4, TH Sman, TH-36.
Bunyamwera group;	Bunyamwera, Germiston, Ilesha, Shokwe.
Olifantsvlei group;	Olifantsvlei.
Bwamba group;	Bwamba, Pongola.
Simbu group;	Simbu, Ingwavuma, Yaba 7.
California group;	Group serum, Lumbo.
Phlebotomus fever group;	Nafada.
Turlock group;	Yaba 1, M'Poko.
Nyando group;	Nyando, Eret 147 (DakArY 176).
Mossuril group;	Mossuril.

Kemerovo group;	Chenuda, Wad Medani.
Quaranfil group;	Quaranfil.
Qalyub group;	Bandia.
Uukuniemi group;	Grand Arbaud, Ponteves.
Others;	Witwatersrand, Okola, Nkolbisson, Tataguine, Lembombo, Nyamanini, Thogoto, Jos, Tanga, Gossas, Le Dantec.

D 4600 gave positive results with the following viruses: Banzi, Bouboui, UGS. Cross CF and neutralization tests with these viruses gave the following results:

	CF TEST ANTIGENS					NEUTRALIZATION TEST VIRUS			
Antisera	**D 4600**	**BANZI**	**BOUBOUI**	**UGS**	**Antisera**	**D 4600**	**BANZI**	**BOUBOUI**	**UGS**
D 4600	64/16 [a]	32/32	8/4	8/16	D 4600	> 3.2 [b]	<0.9	2.3	1.7
BANZI	32/8	128/16		>64/16	BANZI	2.4	3.5		3.0
BOUBOUI	8/16		128/8		BOUBOUI	1.9		4.3	
UGS	8/16	32/16		64/16	UGS	2.1	1.9		2.9

[a] Antiserum titer/antigen titer

[b] LNI in dex

Results indicate that DakAnD 4600 is apparently a new Group B 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)	
BHK-21 (CL)	SM 3	3	CPE	>8.2*					
PS (CL)		3	CPE	>8.2					
Vero (CL)	P5 SM 1				5	Plaques	7.0* (2)		
LLC-MK2 (CL)						No plaques(2)			
DE (PC)					5	Plaques	5.3 (2)		

* 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
Tatera kempi	5/288		Saboya, Senegal
Man		0/44 CF	Saboya, Senegal
		1/910 CF	Freetown, Sierra Leone
Insectivora		1/53 HI *	Senegal; different areas
Chiroptera		4/209 HI *	
Primates		3/234 HI *	
Rodentia		26/1011 HI *	
Carnivora		5/104 HI *	
Artiodactyla		3/90 HI *	
Aves		17/1635 HI *	
Reptilia		21/200 HI *	

* Primary infection pattern

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 3	ic 0.02	Death	4	9.8
Mice (nb)		ip 0.02	Death	3-5	
Mice (nb)		sc			
Mice (wn)		ic 0.03	Death	6-14	
Mice (wn)		ip 0.10	Production of antibody		
rabbit (2 mo)		iv 0.5	Production of antibody		

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)
In inoculated newborn mice: severe lesions of encephalitis found almost exclusively in rhinencephalus. Some pulmonary alveolitis and interstitial pneumonitis.

Inclusion Bodies — Intranuclear

Organs/Tissues Affected
Brain (LV), lungs (LV)

Category of tropism
Neurotropic

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

Suspected (Antibody only detected)

Section XIII - References

1. Rapport Annuel Du Centre Regional OMS De Reference Pour Les Arbovirus. Institut Pasteur de Dakar. 1968. p. 7.
2. Calisher, C.H., et al. Personal communication. 1983.

Remarks