

Virus Name: Saboya	Abbreviation: SABV	
Status <b>Possible Arbovirus</b>	Select Agent No	SALS Level 2
SALS Basis <b>Results of SALS surveys and information from the Catalogue.</b>		
Other Information		
Antigenic Group <b>B</b>		

#### SECTION I - Full Virus Name and Prototype Number

Prototype Strain Number / Designation <b>DakAnD 4600</b>	Accession Number	Original Date Submitted 11/17/1984
Family <b>Flaviviridae</b>	Genus <b>Flavivirus</b>	
Information From <b>Arbovirus Reference Centre</b>	Address <b>Institut Pasteur, BP 220, Dakar, Senegal</b>	
Information Footnote <b>Reviewed by editor</b>		

#### Section II - Original Source

Isolated By (name) <b>Institut Pasteur</b>	Isolated at Institute <b>Dakar, Senegal</b>	
Host Genus <b>Tatera kempfi (gerbil)</b>	Species	Host Age/Stage <b>Adult</b>
Sex <b>Female</b>		
<u>Isolated From</u> <u>Isolation Details</u>		
<b>Whole Blood</b>		
Signs and Symptoms of Illness	Arthropod	
Time Held Alive before Inoculation		
Collection Method <b>Trapped</b>	Collection Date <b>2/22/1968</b>	
Place Collected (Minimum of City, State, Country) <b>Saboya, Senegal</b>		
Latitude <b>13° 36' N</b>	Longitude <b>16° 25' W</b>	
Macrohabitat <b>Farmed areas in sparse forest around mangrove gallery at sea level; tropical.</b>	Microhabitat <b>Millet and peanuts plantations</b>	Method of Storage until Inoculated <b>Revco at -75dC</b>
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) <b>1:100</b>	After Treatment Titer <b>4.3 dex</b>	Control Titer <b>8.1 dex</b>
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

Hemagglutination	Antigen Source	Erythrocytes (species used)
Yes	SMB ext. by sucrose-acetone	Goose
pH Range	pH Optimum	
6.2-6.8	6.6	
Temperature Range	Temperature Optimum	
Room temperature		
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:

Antisera	CF TEST ANTIGENS				Antisera	NEUTRALIZATION TEST VIRUS			
	D 4600	BANZI	BOUBOUI	UGS		D 4600	BANZI	BOUBOUI	UGS
D 4600	64/16 <sup>a</sup>	32/32	8/4	8/16	D 4600	> 3.2 <sup>b</sup>	<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

<sup>a</sup> Antiserum titer/antigen titer

<sup>b</sup> 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)			
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)**

<b>Experimental host and age</b>	<b>Passage history and strain</b>	<b>Inoculation Route-Dose</b>	<b>Evidence of infection</b>	<b>AST (days)</b>	<b>Titer log10/ml</b>	
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**

<b>Arthropod species &amp; virus source(a)</b>	<b>Method of Infection log10/ml (b)</b>		<b>Incubation period (c)</b>		<b>Transmision by bite (d)</b>		<b>Assay of arthropod, log10/ml (e)</b>		
	<b>Feeding</b>	<b>Injected</b>	<b>Days</b>	<b>°C</b>	<b>Host</b>	<b>Ratio</b>	<b>Whole</b>	<b>Organ</b>	<b>System</b>

## 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
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Subclinical	Overt Disease
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Clinical Manifestations

Number of Cases	Category (i.e. febrile illness, etc.)
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## 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