Virus Name: Koutango		Abbreviation: KOUV
Status **Probable Arbovirus**	Select Agent **No**	SALS Level **3**

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 5443

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

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
4/24/1968

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

Latitude
13° 36' N

Longitude
16° 25' W

Macrohabitat
Farmed areas in sparse forest around mangrove gallery, sea level, tropical

Microhabitat
Millet and peanuts plantations

Method of Storage until Inoculated
Revco at -75dC

Footnotes

Section III - Method of Isolation

Inoculation Date
6/23/1969

Animal (Details will be in Section 6)
nb mice

Route Inoculated
Intracerebral

Reisolation

Other Reasons
First virus of thistype 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)	After Treatment Titer **3.6 dex**	Control Titer **8.5 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	Antigen Source	Erythrocytes (species used)
Yes	**SMB ext. by sucrose-acetone**	**Goose**
pH Range **6.0-6.6**	pH Optimum	
Temperature Range	Temperature Optimum **28dC**	

Remarks

Serologic Methods Recommended
CF, NT

Footnotes

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

CF tests. Homologous titer = 32/8.

D 5443 failed to react with the following viruses:

Group A;	chikungunya, o'nyong-nyong, Semliki Forest virus, Sindbis, Middelburg, Ndumu.
Group B;	Ntaya, Wesselsbron, Dakar bat, Uganda S, yellow fever, Zika, Spondweni, Bukalasa bat, Bagaza (DakArB 209), DakArY 310, Entebbe bat, Banzi, Bouboui, 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 5443 gave positive results with the following viruses: West Nile, Usutu, Y 276 (S-t Usutu). Cross-CF and neutralization tests with these viruses gave the following results:

	ANTIGENS					VIRUS			
Antisera	**D 5443**	**WN**	**USU**	**Y 276**	**Antisera**	**D 5443**	**WN**	**USU**	**Y 276**
D 5443	16/64 [a]	0/0	0/0	0/0	D 5443	1.8 [b]	<0.7	1.3	0.9
WN	8/32	16/32			WN	1.7	1.3	3.5	2.0
USU	8/8		32/16	8/16	USU	<0.8	<0.3	2.3	1.0
Y 276	32/32	64/32	32/32	128/32	Y 276	<1.0	1.2	2.2	2.7

[a] Antibody titer/antigen titer

[b] LNI in dex

Results indicate that DakAn D 5443 is apparently a hitherto undescribed virus strain related to West Nile.

Section VI - Biologic Characteristics

Virus Source (all VERTEBRATE isolates)
Blood (LV) (7)

Lab Methods of Virus Recovery (ALL ISOLATIONS)
Newborn and weanling 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)	
PS (CL)	SMB 4	2	CPE	7.9*					

* 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	1/288		Saboya, Senegal
Mastomys sp.	1/295		Bandia, Senegal
Mastomys sp.	1/1		N'Dim, Cent.Afr.Rep.
Mastomys sp.	2		Cent. African Rep.(2)
Lemnyscomys sp.	1		
Man (blood)	1		Dakar, Senegal (laboratory infection)(3)
Gerbil	1		Somalia, 1974 (5)
Alectorobius sonrai	2		Senegal (6)
Rhipicephalus muhsamae	2		Cent. Afr. Rep. (6)
Mosquitoes	1		Senegal (6)

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 4	ic 0.02	Death	3	10.8
Mice (nb)		ip 0.02	Death	3-4	
Mice (nb)		sc			
Mice (wn)		ic 0.03	Death		
Mice (wn)		ip 0.1	Death		
Mice (nb)		ic	Viremia; +3.0 dex LD50 from 12-36 hr, 8.0 dex LD50 from 48-84 hr pi. (3).		

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
Aedes aegypti fed on viremic suckling mice and transmitted virus by bite to baby mice 7 days later. (3)									
	Experimental transovarial transmission demonstrated in Aedes aegypti (4).								

Section X - Histopathology

Character of lesions (specify host)
Inoculated newborn mice

Inclusion Bodies — Intranuclear

Organs/Tissues Affected

Category of tropism
Neurotropic

Section XI - Human Disease

In Nature — Residual — Death

Subclinical — Overt Disease
Reported

Clinical Manifestations
Fever, rash

Number of Cases — Category (i.e. febrile illness, etc.)
Febrile illness with rash

Section XII - Geographic Distribution

Known (Virus detected)
Senegal, Central African Republic, Somalia (5)

Suspected (Antibody only detected)

Section XIII - References

1. Rapport Annuel de l'Institut Pasteur de Dakar. 1972.
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5. Butenko, A.M., et al. 1986. Med. Parazitol. Parazit. Bolezni 0(3):65-68.
6. Rapport Annuel de l'Institut Pasteur de Dakar. 1986.

Remarks