Virus Name: **Koutango** **Abbreviation:** **KOUV**

Status: Probable Arbovirus
SALS Level: 3
Antigenic Group: B
Taxonomic status: *Flavivirus*
Other Information: None.

Select Agent:
SALS Basis: S
HEPA Filtration:

Section I - Full Virus Name and Prototype Number

Full Virus Name: **Koutango**
Prototype Number: DakAnD 5443
Information from: Arbovirus Reference Centre *
Date: 11/17/1984
Address: Institut Pasteur, BP 220, Dakar, Senegal
*
Reviewed by editor

Section II - Original Source

Isolated by: Institut Pasteur **at:** Dakar, Senegal
Genus and species: Tatera kempi **Sentinel** X
Age/Stage: Adult **Sex:** F

Isolated From	Isolation detail

Signs and symptoms of illness:
Arthropod engorged **depleted** **gravid**
Time held alive before inoculation:
Collection date: 4/24/1968 **Method:** Trapped
Place collected: 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 and Validity

Inoculation Date: 6/23/1969
Animal: nb mice **Embryonated egg:** **Tissue Culture:**
(Details in Section VI - Biologic Char.)
Route inoculated: Intracerebral **Reisolation:**
Other reasons: First virus of thistype in laboratory
Homologous antibody formation by *source animal* (See Section II):
Test used: HI **CF** **NT**
Other:
Footnotes:

Section IV - Virus Properties

Physicochemical:
RNA: DNA: Single Strand: Double Strand:
Pieces: Infectivity: Sedimentation coefficient(s): /strong>
Percentage wt. of virion protein , lipid carbohydrate
Virion polypeptides:
Number: Details:
Non-virion polypeptides:
Number: Details:
Virion density:
Sedimentation coefficient:
Nucleocapsid density Sedimentation coefficient:

Stability of infectivity **(effects) pH**
Lipid solvent:
(ether) After treatment titer Control titer
(chloroform) After treatment titer 3.6 dex **Control titer** 8.5 dex
Detergent:
(deoxycholate) After treatment titer Control titer
Other (formalin, radiation):

Virion morphology:
Shape Dimensions
Mean (nm) range (nm) how meansured
Surface projections, envelope
Nucleocapsid dimensions, symmetry

Morphogenesis:
Site of constituent formation in cell
Site of virion assembly
Inclusion bodies
Other

Hemaggiutination:
HemaggiutinationYes **Antigen source** SMB ext. by sucrose-acetone
Erthrocytes Goose **pH range** 6.0-6.6 **pH optimum**
Temperature optimum 28dC **range**
Remarks
Serologic methods recommended CF, NT
Footnotes:

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
Susceptibility of Cell Culture Systems:

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

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 (Record 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: Inoculated newborn mice
Inclusion bodies:
Cytoplasmic:(M) (LV) **Intranuclear: (M) (LV)**
Organs-tissues affected:
Category of tropism: Neurotropic

Section XI - Human Disease

Human disease:	**In nature:**	**(S)**	**(R)**
	Death:	**(S)**	**(R)**
	Residua:	**(S)**	**(R)**
Laboratory infections:	**Subclinical:**	**(S)**	**(R)**
	Overt Disease:	**(S)**	**(R)** X

Clinical manifestations: Fever, rash
Category: Febrile illness with rash **No. of cases:**

Section XII - Geographic Distribution

Known (virus):

Senegal, Central African Republic, Somalia (5)

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.

Section XIV - Remarks