

Virus Name: Keuraliba		Abbreviation: KEUV
Status Possible Arbovirus	Select Agent No	SALS Level 2
SALS Basis Results of SALS surveys and information from the Catalogue.		
Other Information		
Antigenic Group Le Dantec		

SECTION I - Full Virus Name and Prototype Number

Prototype Strain Number / Designation DakAnD 5314	Accession Number	Original Date Submitted 11/17/1984
Family Rhabdoviridae	Genus Not listed	
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 at Dakar, Senegal	Isolated at Institute Tatera kempi	
Host Genus	Species	Host Age/Stage
Sex Female		
<u>Isolated From</u>	<u>Isolation Details</u>	
Organs/Tissues	Liver	
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) 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 plantation	Method of Storage until Inoculated Revco at -75dC
Footnotes		

Section III - Method of Isolation

Inoculation Date 5/21/1968	
Animal (Details will be in Section 6) nb mice	
Route Inoculated	Reisolation Yes
Other Reasons First virus of this type in laboratory	
Homologous Antibody Formation by <u>Source Animal</u>	
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)	
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<u>Stability of Infectivity (effects)</u>		
pH (infective range)		
Lipid Solvent (ether - % used to test)	After Treatment Titer	Control Titer
Lipid Solvent (chloroform)	After Treatment Titer 2.9 dex	Control Titer 6.6 dex
Lipid Solvent (deoxycholate)	After Treatment Titer	Control Titer
Other (formalin, radiation)		
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<u>Virion Morphology</u>		
Shape Rhabdovirus morphology (3)	Dimensions 65 x 195 nm	
Mean nm	Range nm	
Measurement Method By electron microscopy (3)	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 No	Antigen Source SMB ext. by sucrose-acetone	Erythrocytes (species used) Goose
pH Range 5.7-6.6	pH Optimum	
Temperature Range Room temperature	Temperature Optimum	
Remarks		
Serologic Methods Recommended CF		
Footnotes		

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

CF test: Homologous titer = 256/64. (Institut Pasteur Dakar).

D 5314 did not react with the following viruses:

Group A:	Semliki Forest virus, chikungunya, o'nyong-nyong, Begoa (DakHB 543), DakArY 251, Middleburg, Sindbis, Ndumu.
Group B:	Ntaya, Bagaza (DakArB 209), Wesselsbron, DakArY 310, Usutu, DakArY 276, West Nile, Koutango, Dakar bat, Uganda S. Saboya, Banzi, Bouboui, yellow fever, Zika, Spondweni, Bukalasa bat, (DakAnD 595), Royal Farm, Kadam (UgAr 6640).
Bunyamwera;	Bunyamwera, Germiston, Ilesha, Shokwe, Birao (DakArB 2198).
Simbu;	Simbu, Ingwavuma, DakAnB 331, DakArB 994, DakArB 1351.
Bwamba;	Bwamba, Pongola.
California;	Lumbo.
Olifantsvlei;	Olifantsvlei, Bobia (DakArB 1569).
Turlock;	Yaba 1, M'Poko (DakArB 365).
Nyando;	Nyando, Eret 147, DakArY 176.
Mossuril;	Mossuril.
Matariya;	DakAnB 423.

Eubenangee;	Pata (DakArB 1327).
Phlebotomus;	Nafada (DakAnD 3150).
NSD;	Dugbe, DakAnB 373.
Kemerovo;	Chenuda, Wad Medani.
Qalyub;	Bandia.
Quaranfil;	Quaranfil.
Others;	Witwatersrand, Okola, Nkolbisson, Tataguine, Lebombo, Tanga, Nyamanini, Thogoto, Jos (DakArD 3491), Bhanja (DakArD 9540), Gossas, Le Dantec, Somone (DakArD 4499), Toure, Yogue, Hann (DakArD 8194), Botambi, Boteke, Zinga (DakArB 1976), Bangoran (DakArB 2053), Sokoumba (DakArB 2078), Yata (DakArB 2181), DakHB 754, DakAnB 769, DakArB 2712, DakArB 2846, DakArB 2882, DakArY 347.
Nonarbovirus;	Herpesvirus (DakHB 3667).

In addition, D 5314 antigen failed to react with the following immune fluids:

Group B;	Entebbe bat, Montana Myotis leukoencephalitis, dengue 1, 2, 3, 4, TH Sman, TH-36.
Simbu;	Shamonda, Sango, Sabo, Shuni, Sathuperi, Yaba 7, IbAn 28558.
California;	Group serum.
Tete;	Tete, Matruh.
EHD-NJ;	IbAr 22619.
Matariya;	Matariya, Burg el Arab.
Corriparta;	Acado.
VSV;	Chandipura (IbAn 9978).
Phlebotomus;	Group serum, Arumowot (IbAn 15736).
Kaisodi-Qalyub-Quaranfil;	Group serum (Johnston Atoll, Kaisodi, Bandia, Silverwater, Quaranfil, Lanjan, Qalyub).
Uukuniemi;	Grand Arbaud, Ponteves, EgAn 1825.
Congo;	Congo.
Bluetongue;	Type 7 (IbAn 22703), Type 10 (IbAr 22618).
Others;	SudAr 1275/64, Abadina (IbAr 22388), Oyo (IbAn 2898), IbAn 17143, Lagos bat, Mount Elgon bat, IbAn 33709, IbAn 38946, SAAN 4511.
Nonarboviruses;	LCM-rabies, Mokola, and IbH 2977 (related to rabies), IbAn 20433 (NDV), IbAr 23380 (kotonkan).

Yale Arbovirus Research Unit (New Haven). HI test. D 5314 antiserum did not react with the following antigens; Oriboca, Itaqui, Marituba, Murutucu, Nepuyo, Gumbo Limbo, Apeu, Caraparu, Pixuna, Aura, Mucambo, EEE, WEE, VEE, Mayaro, Arumowot (IbAn 15736), Naples, Anhangá, Sororoca, Tacaiuma, Pacora, Turlock, Umbre, Utinga, Wongal, Zegla, Sango, (Maru-11709), SLE, Powassan, California, Karimabad, Icoaraci, Sicilian, Tahnya, Guaroa, Taissui, Maguari, Anopheles A, Anopheles B, Bakau, Benfica, Buttonwillow, Guajara, Kairi, Ketapang, Manzanilla, Patois, Itaporanga, Candiru, Chagres, Bujaru.

Subsequently, Le Dantec virus was shown to be antigenically related to Keuraliba virus by CF tests although both viruses were distinct [4]. Previously, Keuraliba virus was antigenically placed in the VSV serogroup, but this relationship is now in question. It is recommended that Keuraliba virus be removed from the VSV serogroup; therefore, Keuraliba and Le Dantec viruses will now comprise the Le Dantec serogroup.

Section VI - Biologic Characteristics

Virus Source (all VERTEBRATE isolates)
Blood (LV), liver (LV), kidney (LV), spleen (LV)

Lab Methods of Virus Recovery (ALL ISOLATIONS)
Newborn mice

Cell system (a)	Virus passage history (b)	Evidence of Infection							Growth Without CPE +/- (g)
		CPE			PLAQUES				
		Day (c)	Extent (d)	Titer TCD50/ml (e)	Day (c)	Size (f)	Titer PFU/ml (e)		
Xenopus laevis (CL)			CPE (3)						
Vero (CL)			No CPE (3)						
BHK-21 (CL)			No CPE (3)						

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 kempfi (gerbil)	5/288		Saboya, Senegal
Mastomys sp. (rodent)	1/295		
Taterillus sp. (gerbil)	1/61		
Man		0/44 CF	

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 log ₁₀ /ml
Mice (nb)	SMB 3	ic 0.02	Death	3	8.3
Mice (nb)		ip 0.02	None		
Mice (nb)		sc			
Mice (wn)		ic 0.03	Irregular deaths	9-10	
Mice (wn)		ip 0.1	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 log ₁₀ /ml (b)		Incubation period (c)		Transmission by bite (d)		Assay of arthropod, log ₁₀ /ml (e)		
	Feeding	Injected	Days	°C	Host	Ratio	Whole	Organ	System

Section X - Histopathology

Character of lesions (specify host)

Inoculated suckling mice: Very important lesions of encephalitis with focal destruction and necrosis of neurons. Mild myelitis; no myositis; no visceral lesions.

Inclusion Bodies

Intranuclear

Organs/Tissues Affected

Brain (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)

Remarks

1. Rapport annuel du Centre Regional de Reference pour les Arbovirus, Institut Pasteur de Dakar, 1968. 2. Director, YARU. Personal communication. 1968. 3. El Mekki, A., et al. 1981. Trans. Roy. Soc. Trop. Med. Hyg. 75:799-806. 4. Cropp, C.B., et al. Personal communication. 1984.