

<b>Virus Name: Dakar bat</b>		<b>Abbreviation: DBV</b>
Status <b>Not Arbovirus</b>	Select Agent <b>No</b>	SALS Level <b>2</b>
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>IPD/A 249</b>	Accession Number	Original Date Submitted <b>2/28/1985</b>
Family <b>Flaviviridae</b>	Genus <b>Flavivirus</b>	
Information From <b>Dr. P. Bres</b>	Address <b>Institut Pasteur, BP 220, Dakar (Republique du Senegal)</b>	
Information Footnote <b>Reviewed by editor</b>		

**Section II - Original Source**

Isolated By (name) <b>P. Bres (1)</b>	Isolated at Institute <b>Dakar</b>	
Host Genus <b>Vespertilionides-Scotophilus</b>	Species	Host Age/Stage
Sex <b>Not Answered</b>		
<u>Isolated From</u>	<u>Isolation Details</u>	
<b>Other Fluids</b>	<b>Salivary glands</b>	
Signs and Symptoms of Illness <b>None</b>	Arthropod	
Time Held Alive before Inoculation		
Collection Method <b>Caught by hand</b>	Collection Date <b>9/4/1962</b>	
Place Collected (Minimum of City, State, Country) <b>Pire, Thies region, Senegal</b>		
Latitude <b>15° 0' N</b>	Longitude <b>16° 40' W</b>	
Macrohabitat <b>Forest savannah, sea level</b>	Microhabitat <b>Tile roof, railway station</b>	Method of Storage until Inoculated <b>10% suspension at -60dC</b>
Footnotes		

**Section III - Method of Isolation**

Inoculation Date  
**9/29/1962**

Animal (Details will be in Section 6)  
**nb mice**

Route Inoculated <b>ic and ip</b>	Reisolation <b>Yes</b>
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Other Reasons  
**. Repeated isolations from identical sources; antibodies in bats surveyed**

Homologous Antibody Formation by Source Animal  
**No**

Test(s) Used  
**HI**

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	Control Titer
Lipid Solvent (deoxycholate) <b>1:500</b>	After Treatment Titer <b>3.0 dex</b>	Control Titer <b>8.5 dex</b>
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  
**5.7-6.6**      **6.2**

Temperature Range      Temperature Optimum  
      **28dC**

Remarks

Serologic Methods Recommended  
**HI, CF, NT**

Footnotes

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

Immune Sera	Dakar bat Antigen		Antigens	Dakar bat Immune Serum	
	HI Ht/Ho	NT Ht/Ho		HI Ht/Ho	NT Ht/Ho
Banzi (GP; 3 inj.)	2560/5120		Banzi	10/160	
WN (GP; 3 inj.)	80/320		WN	40/160	
WN (mice; 3 inj.)		1.07/3.40			0.51/2.05
Uganda S (mice; 3 inj.)		1.17/3.73	Uganda S		0.85/2.05

NT: LNI in dex.

Screening neutralization test with 1.5 dex LD50 challenge dose of registered virus against: dengue 1, Entebbe bat, Ntaya, Spondweni, Uganda S, Usutu, Wesselsbron, West Nile, yellow fever; Zika: Negative; Banzi protection 3/10. See also extensive cross-HI results versus other Group B viruses in Reference [4], and additional information on antigenic relationship in References [11] - [13].

**Section VI - Biologic Characteristics**

Virus Source (all VERTEBRATE isolates)  
**Blood (M), salivary gland (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 +/- (g)
		Day (c)	Extent (d)	Titer TCD50/ml (e)	Day (c)	Size (f)	Titer PFU/ml (e)	
BHK-21 (CL)	SM 3	3	CPE	7.7*				
PS (CL)		3	CPE	8.8				
Vero (CL)	P-6				7	3 mm	7.5* (8)	
LLC-MK2 (CL)					2	2 mm	6.8 (8)	
* Expressed in dex								

Vertebrate (species and organ) and arthropod	No. isolations/No. tested	No. with antibody/No. tested Test used	Country and region
Bats:			
Scotophilus nigrita nigrita, Tadarida (Mops) condylura wonderi *	42/3,115	90/165 HI	Senegal, WestAfrica(2)
T. (M.) condylura	7/260		Roofs of buildings, Uganda (4, 5)
T. condylura	3		Ibadan, Nigeria (9)
Man		9/300 HI(primary infection pattern)	Senegal (2)
Man (blood)	2		Western Region, Nigeria (10)

\* Processed in pools of about 20 and examined in pools of 10-20; nearly all from railway stations.

**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 <sub>10</sub> /ml
Mice (nb)	SM 3	ic 0.02	Death	7	7.8
Mice (nb)		ip 0.02	Death	9	6.5+
Mice (nb)		sc			
Mice (wn)		ic 0.03	Very irregular		
Mice (wn)		ip 0.1	Not pathogenic		
guinea pig (2 mo)		ic 0.10	Not pathogenic		
rabbit (3 mo)		ic 0.25	Not pathogenic		
™ (3 mo)		iv 0.50	Not pathogenic		

**Section IX - Experimental Arthropod Infection and Transmission**

Arthropod species & virus source(a)	Method of Infection log <sub>10</sub> /ml (b)		Incubation period (c)		Transmission by bite (d)		Assay of arthropod, log <sub>10</sub> /ml (e)		
	Feeding	Injected	Days	°C	Host	Ratio	Whole	Organ	System

### Section X - Histopathology

Character of lesions (specify host)

**Wn mice; ic: encephalitis with perivascular cuffing, karyorrhhexis and destruction of neurons, mostly in the rhinencephalus; no Negri bodies have been found.**

Inclusion Bodies

Intranuclear

Organs/Tissues Affected

Category of tropism

### Section XI - Human Disease

In Nature  
**Reported**

Residual

Death

Subclinical

Overt Disease

Clinical Manifestations

Number of Cases

2

Category (i.e. febrile illness, etc.)

**Febrile**

### Section XII - Geographic Distribution

Known (Virus detected)

**Senegal (2), Nigeria (7), Uganda (4), Central African Republic (6), Madagascar (14)**

Suspected (Antibody only detected)

### Section XIII - References

1. Bres, P. and Chambon, L. 1963. Ann. Inst. Pasteur 104:705-711.
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4. Williams, M.C., et al. 1964. Zoonoses Res. 3:141-152.
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6. Rapport sur le fonctionnement technique de l'Inst. Pasteur de Bangui, 1965.
7. Virus Research Laboratory, Ibadan, Nigeria. 1966. Unpublished results.
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12. De Madrid, A.T. and Porterfield, J.S. 1974. J. Gen. Virol. 23:91-96.
13. Varelas-Wesley, I. and Calisher, C.H. 1982. Am. J. Trop. Med. Hyg. 31:1273-1284.
14. Jan, C. et al., Institute Pasteur, Dakar. 1974. Unpublished.

### Remarks

**Two isolations of Dakar bat virus have been obtained from bats collected in Madagascar (14).**