| Virus Name: Dakar bat | Abbreviation: DBV |
|---|---|

Status
**Not Arbovirus**

Select Agent
**No**

SALS Level
**2**

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
**IPD/A 249**

Accession Number

Original Date Submitted
2/28/1985

Family
**Flaviviridae**

Genus
**Flavivirus**

Information From
**Dr. P. Bres**

Address
**Institut Pasteur, BP 220, Dakar (Republique du Senegal)**

Information Footnote
**Reviewed by editor**

## Section II - Original Source

Isolated By (name)
**P. Bres (1)**

Isolated at Institute
**Dakar**

Host Genus
**Vespertilionides-Scotophilus**

Species

Host Age/Stage

Sex
**Not Answered**

| Isolated From | Isolation Details |
|---|---|
| **Other Fluids** | **Salivary glands** |

Signs and Symptoms of Illness
**None**

Arthropod

Time Held Alive before Inoculation

Collection Method
**Caught by hand**

Collection Date
**9/4/1962**

Place Collected (Minimum of City, State, Country)
**Pire, Thies region, Senegal**

Latitude
**15° 0' N**

Longitude
**16° 40' W**

Macrohabitat
**Forest savannah, sea level**

Microhabitat
**Tile roof, railway station**

Method of Storage until Inoculated
**10% suspension at -60dC**

Footnotes

## Section III - Method of Isolation

Inoculation Date
**9/29/1962**

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

Route Inoculated
**ic and ip**

Reisolation
**Yes**

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)<br>**1:500** | After Treatment Titer<br>**3.0 dex** | Control Titer<br>**8.5 dex** |

Other (formalin, radiation)

**Virion Morphology**

| | | |
|---|---|---|
| Shape | Dimensions | |
| Mean<br>nm | Range<br>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<br>**5.7-6.6** | pH Optimum<br>**6.2** | |
| Temperature Range | Temperature Optimum<br>**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 HI Ht/Ho | Dakar bat Antigen NT Ht/Ho | Antigens | Dakar bat Immune Serum HI Ht/Ho | Dakar bat Immune Serum 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 | |
| | | Day (c) | Extent (d) | Titer TCD50/ml (e) | Day (c) | Size (f) | Titer PFU/ml (e) | +/- (g) | |
| 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

**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 |
|---|---|---|---|
| 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 log10/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 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 |

## Section X - Histopathology

Character of lesions (specify host)
**Wn mice; ic: encephalitis with perivascular cuffing, karyorrhexix 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 | Residual | Death |
|---|---|---|
| **Reported** | | |

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


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## Remarks

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