Virus Name: Ippy	Abbreviation: IPPYV

Status
Possible Arbovirus

Select Agent
No

SALS Level
2

SALS Basis
Results of SALS surveys and information from the Catalogue.

Other Information

Antigenic Group
Tacaribe

SECTION I - Full Virus Name and Prototype Number

Prototype Strain Number / Designation
DakAnB 188d

Accession Number

Original Date Submitted
8/28/1984

Family
Arenaviridae

Genus
Arenavirus

Information From
J.P. Digoutte

Address
Institut Pasteur B.P. 304 Cayenne Guyane Francaise

Information Footnote
Reviewed by editor

Section II - Original Source

Isolated By (name)
J.P. Digoutte and F.X. Pajot

Isolated at Institute
Institut Pasteur, Bangui

Host Genus
Arvicanthis

Species

Host Age/Stage
Adult

Sex
Male

Isolated From	Isolation Details
Organs/Tissues	**Brain, liver, spleen pool**

Signs and Symptoms of Illness

Arthropod

Time Held Alive before Inoculation

Collection Method
Caught by trap

Collection Date
6/26/1970

Place Collected (Minimum of City, State, Country)
Ippy, Central African Republic

Latitude
6° 15' N

Longitude
21° 12' E

Macrohabitat
Savannah with forest gallery

Microhabitat

Method of Storage until Inoculated
Liquid nitrogen, then Revco at -75dC

Footnotes

Section III - Method of Isolation

Inoculation Date
8/10/1970

Animal (Details will be in Section 6)
nb mice

Route Inoculated
ic, ip and sc

Reisolation
Yes

Other Reasons

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 **<2.0 dex**	Control Titer **5.0 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 **Not tried**	Antigen Source	Erythrocytes (species used)
pH Range	pH Optimum	
Temperature Range	Temperature Optimum	
Remarks		
Serologic Methods Recommended **CF**		
Footnotes		

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

CF titer of the immune ascitic fluid = 512 with homologous antigen diluted to 1/6 Institut Pasteur (Dakar) [4] . DakAnB 188 gives negative results with the following viruses:

Group A;	Semliki Forest virus, chikungunya, o'nyong-nyong, Igbo-Ora (B 543), Sindbis, ArY 251, Middelburg, Ndumu.
Group B;	Ntaya, Bagaza (ArB 209), Wesselsbron, ArY 310, Usutu, ArY 276, West Nile, Koutango (AnD 5443), Dakar bat, Uganda S, Saboya (AnD 4600), Banzi, Bouboui (ArB 490), yellow fever, Zika, Spondweni, Bukalasa bat (AnD 595), Royal Farm (T 285), Kadam (UgAr 6640), Cambodia (AnC 38), AnY 589.
Bunyamwera;	Bunyamwera, Germiston, Ilhesha, Shokwe, Birao (ArB 2198).
Simbu;	Buttonwillow, Ingwavuma, Simbu, Nola (ArB 2882).
Bwamba;	Bwamba, Pongola.
California;	Lumbo.
Olifantsvlei;	Olifantsvlei, Bobia (ArB 1569), Botambi (ArB 937).
Tete;	Tete (SAAn 3518), Bahig (EgB 90), Matruh (EgAn 1047), DakAnB 1422, AnB 1292, AnB 1544, AnB 1564.
Phlebotomus;	Arumowot (SudAr 1284), Gabek Forest (AnD 3150), Gordil(AnB 496), Saint-Floris (AnB 512-Re), Zinga (ArB 1976).
Boteke;	Boteke (ArB 1077), Zingilamo (AnB 1245).
Corriparta;	Acado (EhAr 1846), Corriparta, ArB 3689.
Eubenangee;	Eubenangee (In 1074), Pata (ArB 1327).

Matariya;	Burg el Arab (EgAn 3782), Matariya (EgAn 1477), AnB 423.
Mossuril;	Bangoran (ArB 2053), Mossuril, Kamese.
Nyando;	Eret 147 (AnY 176), Nyando.
Turlock;	Yaba 1 (ArB 365).
Congo;	Congo (IbAr 10200).
NSD;	Dugbe (IbAn 1792).
Kemerovo;	Chenuda, Wad Medani.
Qalyub;	Bandia (ArD 611), Qalyub (EgAr 370).
Quaranfil;	Quaranfil.
Thogoto;	Thogoto.
Keuraliba;	Keuraliba (AnD 5314), Le Dantec (HD 763).
Nyamanini;	Nyamanini.
Ungrouped;	Lebombo, Nkolbisson, Okola, Tanga, Tataguine, Witwatersrand, Orungo (ArB 2078), SudAr 1275, Bhanja (ArD 9540), Jos (ArD 15131), Somone (ArD 4499), IbAn 39048 (ArYT 34), Gossas (AnD 401), Toure (AnD 4611), Yogue (AnD 5634), AnD 11411, Yata (ArB 2181), Bangui (HB 754), Landjia (AnB 769), Gomoka (AnB 787), Kolongo (AnB 1094), Bimbo (AnB 1054), Ouango (AnB 1582), Bobaya (AnB 2208), Oubangui (ArB 3816), Sandjimba (AnB 373), AnB 277, AnB 1227, AnB 1398, AnB 904, AnYV 6, AnYV 177.
Nonarbovirus;	Herpesvirus (HB 3667).

In addition, DakAnB 188 antigen failed to react with the following immune fluids:

Group B;	Entebbe bat, Montana Myotis leukoencephalitis, dengue 1, 2, 3, 4, Potiskum (IbAn 10069).
Simbu;	Sango, Shamonda, Sabo, Shuni, Sathuperi, Yaba 7.
California;	Group serum.
EHD;	IbAr 22619.
VSV;	Chandipura (IbAn 9978).
Phlebotomus;	Group serum.
Kaisodi-Qalyub-Quaranfil;	Serum polyvalent (Johnston Atoll, Kaisodi, Bandia, Silverwater, Quaranfil, Lanjan, Qalyub).
Uukuniemi;	Grand Arbaud, Ponteves, EgAn 1825.
Bluetongue;	type 10 (IbAr 22618).
AHS;	IbAn 53177.

Rabies serogroup;	Lagos bat.
Ungrouped;	IbAr 23380, IbAn 2898 (Oyo), IbAn 17143, Mount Elgon bat, IbAn 33709, IbAn 28946, EgAn 1398/61 (IbAn 39652).
Nonarbovirus;	LCM, rabies, IbAn 27377 and IbH 29777 (related to rabies), IbAn 20433 (NDV).

In addition DakAnB 188 antigen was screened against NIH grouping fluids with negative results [4] .

Recent cross-immunofluorescence studies have shown that Ippy virus is related to Lassa virus. Antibody to Ippy virus reacted to high titer with Lassa virus and Lassa-related viruses, while monoclonal antibody to Lassa virus reacted with Ippy virus. The exact relationship of Ippy virus to other arenaviruses of the Tacaribe serogroup remains to be determined [5] , [6] .

Section VI - Biologic Characteristics

Virus Source (all VERTEBRATE isolates)
Blood (LV), CNS (LV), liver (LV), spleen (LV) (pooled tissues)

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)	

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
Lemniscomys striatus	1/103		Centr.Afr.Republic (1)
Mastomys	1/448		
Arvicanthis	3/81		Centr.Afr.Republic (1, 2)
Praomys (blood) *	10/225		Centr.Afr.Republic (2, 3)

* Two isolates were obtained from blood and organs of the same Praomys.

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 13	ic 0.02	Death	9-14	5
Mice (nb)		ip 0.03	No illness		
Mice (nb)		sc			
Mice (wn)		ic 0.03	No illness		
Mice (wn)		ip 0.01	No illness		

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)

Inclusion Bodies — Intranuclear

Organs/Tissues Affected

Category of tropism

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)
Central African Republic

Suspected (Antibody only detected)

Section XIII - References

1. Rapport Annuel de l'Institut Pasteur de Bangui. 1970.
2. Rapport Annuel de l'Institut Pasteur de Bangui. 1971.
3. Rapport Annuel de l'Institut Pasteur de Bangui. 1972.
4. Robin Y. Institut Pasteur de Dakar. Personal communication.
5. Swanepoel, R., et al. Personal communication. 1984.
6. Swanepoel, R. et al. 1985. Lancet i:639.

Remarks