Virus Name: Anhembi	Abbreviation: AMBV

Status
Possible Arbovirus

Select Agent
No

SALS Level
2

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

Other Information

Antigenic Group
Bunyamwera

SECTION I - Full Virus Name and Prototype Number

Prototype Strain Number / Designation
SPAr 2984

Accession Number

Original Date Submitted
2/7/1985

Family
Bunyaviridae

Genus
Bunyavirus

Information From
Dr. Oscar de Souza Lopes

Address
Instituto Adolfo Lutz, Caixa Postal 7027, Sao Paulo, Brazil

Information Footnote
Reviewed by editor

Section II - Original Source

Isolated By (name)
Dr. Oscar de Souza Lopes

Isolated at Institute
Casa Grande, Sao Paulo

Host Genus
Phoniomyia pilicauda

Species

Host Age/Stage
Adult

Sex
Female

Isolated From

Isolation Details

Signs and Symptoms of Illness

Arthropod

Time Held Alive before Inoculation

Collection Method
Human Bait

Collection Date
1/15/1965

Place Collected (Minimum of City, State, Country)
Casa Grande, Brazil

Latitude
23° 40' S

Longitude
45° 55' W

Macrohabitat
Primitive forest in a chain of mountains 800 meters above sea level

Microhabitat
Inside of forest

Method of Storage until Inoculated
In electrical deep freezer at -56dC

Footnotes

Section III - Method of Isolation

Inoculation Date
2/5/1965

Animal (Details will be in Section 6)
nb mice

Route Inoculated
Intracerebral

Reisolation
No

Other Reasons
A different virusin the laboratory

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	Control Titer
Lipid Solvent (deoxycholate) **1:1000**	After Treatment Titer **2.0 dex**	Control Titer **7.0 dex**

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 **Yes**	Antigen Source **SMB ext. by sucrose-acetone + sonication**	Erythrocytes (species used) **Goose**
pH Range **6.0-6.4**	pH Optimum **6.2**	
Temperature Range **RT**	Temperature Optimum	

Remarks
SMB gave good CF antigens also

Serologic Methods Recommended
CF, NT

Footnotes
SMB gave good CF antigens also

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

Relationship to Bunyamwera serogroup viruses:

Viruses/ Antigens	Ar 2984 Serum NT Ht/Ho	Ar 2984 Serum CF Ht/Ho	Antisera	Ar 2984 Virus/Antigen NT Ht/Ho	Ar 2984 Virus/Antigen CF Ht/Ho
Cache Valley	0.5/3.5	0/32	Cache Valley	1.0/3.5	0/16
Guaroa	0.3/3.5	0/32	Guaroa	3.0/4.8	4/64
Tensaw	1.2/3.5	0/32	Tensaw	2.0/4.5	0/16
Sororoca	-	0/32	Sororoca	-	0/32
Wyeomyia	1.0/3.5	8/32	Wyeomyia	2.0/3.2	8/64
Taiassui	2.0/3.5	4/32	Taiassui	2.0/4.5	4/64
Tucunduba	1.0/3.5	8/32	Tucunduba	2.0/3.5	8/64

NT: LNI given in dex.

- = Not done

SIRACA has classified Anhembi virus as a distinct virus type and placed in the Wyeomia complex, one of four complexes comprising the BUN serogroup. The registered IACO virus and an unregistered virus from Belem, Brazil are considered to be subtypes of Anhembi viruses [2] .
An IFA cross-reaction has been demonstrated betweeen antibody to Anhembi virus and Hantaan or a Hantaan -related virus. This cross-reaction has not been observed in CF or NT; and it has been detected only in one direction as described above [3] , [4] .

Section VI - Biologic Characteristics

Virus Source (all VERTEBRATE isolates)
Heart (LV), kidney (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)	P-1	4	4+	4.0-5.0 *				
Vero (CL)		3	4+	5.0-6.0				

* 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. tsted Test used	Country and region
Man		26/218 NT	Sao Paulo, Brazil
Rodents:			
Proechimys iheringi	1		Sao Paulo, Brazil (1)
Arthropods:			
Phoniomyia pilicauda	1		
Trichoprosopon pallidiventer	1		

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)	P-3	ic 0.02	Death	3.4	7.0
Mice (nb)		ip 0.1	Death	4.5	
Mice (nb)		sc			
Mice (wn)		ic 0.03	Death	5.6	
Mice (wn)		ip 0.2	Antibody		

Section IX - Experimental Arthropod Infection and Transmission

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)
Brazil

Suspected (Antibody only detected)

Section XIII - References

1. Lopes, O. de S., et al. 1975. Am. J. Trop. Med. Hyg. 24:131-134.
2. Calisher, C.H., et al. 1985. To be submitted.
3. Tsai, T.F., et al. 1982. New Eng. J. Med. 307:623-624.
4. Tsai, T.F. Personal communication.

Remarks