Virus Name: Anhanga	Abbreviation: ANHV

Status
Possible Arbovirus

Select Agent
No

SALS Level
2

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

Other Information

Antigenic Group
Phlebotomus Fever

SECTION I - Full Virus Name and Prototype Number

Prototype Strain Number / Designation
BeAn 46852

Accession Number

Original Date Submitted
2/27/1985

Family
Bunyavirus

Genus
Phlebovirus

Information From
Belem Virus Lab.

Address
Belem Virus Laboratory, Instituto Evandro Chagas, Belem, Para, Brazil

Information Footnote
Reviewed by editor

Section II - Original Source

Isolated By (name)
Belem Virus Laboratory

Isolated at Institute
Belem, Para, Brazil

Host Genus
Choloepus brasiliensis

Species

Host Age/Stage

Sex
Female

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

Signs and Symptoms of Illness
None

Arthropod

Time Held Alive before Inoculation

Collection Method
Captured by hand

Collection Date
10/1/1962

Place Collected (Minimum of City, State, Country)
Castanhal Forest, Para, Brazil

Latitude
2° S

Longitude
48° W

Macrohabitat
Virgin forest

Microhabitat
Canopy

Method of Storage until Inoculated
At -60dC

Footnotes

Section III - Method of Isolation

Inoculation Date
10/8/1962

Animal (Details will be in Section 6)
nb mice

Route Inoculated
Intracerebral

Reisolation
Yes

Other Reasons

Homologous Antibody Formation by Source Animal
Not tested

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 **2.6 dex**	Control Titer **5.1 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	Antigen Source	Erythrocytes (species used)
Yes	**SMB ext. by sucrose-acetone**	**Goose**
pH Range	pH Optimum	
5.7-7.0	**6.6**	
Temperature Range	Temperature Optimum	
	37dC	

Remarks
HI, CF, NT

Serologic Methods Recommended

Footnotes
HI, CF, NT

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

HI (4 units):

	Antigens				
Sera	**Icoaraci**	**Candiru**	**Itaporanga**	**Anhanga**	**Bujaru**
Icoaraci	> 1280	> 640	80	20	160
Candiru	40	> 640	0	0	0
Itaporanga	320	0	> 640	0	0
Anhanga	320	0	0	160	40
Bujaru	80	0	0	0	> 640
Chagres	640	0	0	20	20

0 = <10

All sera were hyperimmune mouse 10090 .

For additional information on antigenic relationships, see References [4] , [5] , [6] .

Section VI - Biologic Characteristics

Virus Source (all VERTEBRATE isolates)
Pool of heart, liver, spleen, 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)
Vero (CL)		P-2 prototype			5	1mm	5.6 * (3)	
LLC-MK2 (CL)					3	3mm	6.4 (3)	

* 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
Choloepus brasiliensis (sloth)	1/35		Para, Brazil
Choloepus brasiliensis (sloth)		0/29 HI	Panama (2)
Bradypus		0/21 HI	

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-4	ic 0.02	Death	8.5	6.8
Mice (nb)		ip 0.02	Death	11.2	
Mice (nb)		sc			
Mice (wn)		ic 0.03	Antibody		
Mice (wn)		ip 0.03	Antibody		
hamsters (25 days)	SMB 8	ip	HI and CF antibody		

Section IX - Experimental Arthropod Infection and Transmission

Section X - Histopathology

Character of lesions (specify host)
SM: encephalitis and lesions of the thymus (L.B. Dias)

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. Woodall, J.P. 1967. Atas. Simpos. Biota Amazon. 6:31-63.
2. Belem Virus Laboratory, Belem, Brazil. 1966. Unpublished results.
3. Stim, T.B. 1969. J. Gen. Virol. 5:329-338.
4. Tesh, R.B., et al. 1975. Am. J. Trop. Med. Hyg. 24:135-144.
5. Tesh, R.B., et al. 1982. Ibid. 31:149-155.
6. Travassos Da Rosa, A.P.A., et al. 1983. Ibid. 32:1164-1171.

Remarks