

Virus Name: Anhanga

Abbreviation: ANHV

Status: Possible Arbovirus

SALS Level: 2

Antigenic Group: Phlebotomus Fever

Taxonomic status: *Phlebovirus*

Other Information: None.

Select Agent:

SALS Basis: S

HEPA Filtration:

Section I - Full Virus Name and Prototype Number

Full Virus Name:

Anhanga

Prototype Number:

BeAn 46852

Information from: Belem Virus Lab.

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Date:

2/27/1985

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

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Reviewed by editor

Section II - Original Source

Isolated by: Belem Virus Laboratory **at:** Belem, Para, Brazil

Genus and species: Choloepus brasiliensis **Sentinel** X

Age/Stage: **Sex:** F

Isolated From	Isolation detail
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Signs and symptoms of illness: None

Arthropod engorged ~~depleted~~ **gravid**

Time held alive before inoculation:

Collection date: 10/1/1962 **Method:** Captured by hand

Place collected: 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 and Validity

Inoculation Date: 10/8/1962

Animal: nb mice

Embryonated egg:

Tissue Culture:

(Details in Section VI - Biologic Char.)

Route inoculated: Intracerebral

Reisolation: Yes

Other reasons:

Homologous antibody formation by source animal (See Section II): Not tested

Test used: HI

CF

NT

Other:

Footnotes:

Section IV - Virus Properties

Physicochemical:

RNA: DNA: Single Strand: Double Strand:
Pieces: Infectivity: Sedimentation coefficient(s): /strong>
Percentage wt. of virion protein , lipid carbohydrate
Virion polypeptides:
Number: Details:
Non-virion polypeptides:
Number: Details:
Virion density: Sedimentation coefficient:
Nucleocapsid density Sedimentation coefficient:

Stability of infectivity (effects) pH

Lipid solvent:
(ether) After treatment titer Control titer
(chloroform) After treatment titer Control titer
Detergent:
(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) how measured
Surface projections, envelope
Nucleocapsid dimensions, symmetry

Morphogenesis:

Site of constituent formation in cell
Site of virion assembly
Inclusion bodies
Other

Hemagglutination:

Hemagglutination Yes Antigen source SMB ext. by sucrose-acetone
Erythrocytes Goose pH range 5.7-7.0 pH optimum 6.6
Temperature optimum 37dC range
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):

Sera	Antigens				
	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

Susceptibility of Cell Culture Systems:

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)	
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

Vertebrate (species and organ) and arthropod	No. isolations/No. tested	No. with antibody/No. tested 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 (Record 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)	SMB 8	ic 0.03	Antibody		
Mice (wn)		ip 0.03	Antibody		
hamsters (25 days)		ip	HI and CF antibody		

Section IX - Experimental Arthropod Infection And Transmission

Section X - Histopathology

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

Inclusion bodies:

Cytoplasmic:(M) (LV) **Intranuclear:** (M) (LV)

Organs-tissues affected:

Category of tropism:

Section XI - Human Disease

Human disease: **In nature:** (S) (R)

Death: (S) (R)

Residua: (S) (R)

Laboratory infections: Subclinical: (S) (R)

 Overt Disease: (S) (R)

Clinical manifestations:

Category: **No. of cases:**

Section XII - Geographic Distribution

Known (virus):

Brazil

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.

Section XIV - Remarks
