

Virus Name: Inhangapi		Abbreviation: INHV
Status Possible Arbovirus	Select Agent No	SALS Level 3
SALS Basis Insufficient experience with virus; i.e., experience factor from SALS surveys was less than 500 in laboratory facilities with low biocontainment.		
Other Information		
Antigenic Group Ungrouped		

SECTION I - Full Virus Name and Prototype Number

Prototype Strain Number / Designation BeAr 177325	Accession Number	Original Date Submitted 9/27/1984
Family Rhabdoviridae	Genus Not listed	
Information From F. Pinheiro and A.P.A.T. Rosa	Address Instituto Evandro Chagas, FSESP, P.O. Box 621, 66.000, Belem, Para, Brazil	
Information Footnote Revised		

Section II - Original Source

Isolated By (name) Pinheiro, F.P. et al.	Isolated at Institute Instituto Evandro Chagas, Belem	
Host Genus Lutzomyia flaviscutellata (109 unengorged females)(1)	Species	Host Age/Stage
Sex Female		
<u>Isolated From</u>	<u>Isolation Details</u>	
Whole Blood		
Signs and Symptoms of Illness	Arthropod Depleted	
Time Held Alive before Inoculation +/- 2 hours		
Collection Method Disney trap (guinea pig bait, ground level)	Collection Date 11/27/1969	
Place Collected (Minimum of City, State, Country) Catu forest, IPEAN, Belem		
Latitude 1° 28' S	Longitude 48° 27' W	
Macrohabitat Watershed forest	Microhabitat Ground level	Method of Storage until Inoculated -60dC
Footnotes		

Section III - Method of Isolation

Inoculation Date 12/2/1969	
Animal (Details will be in Section 6) nb mice	
Route Inoculated Intracerebral	Reisolation No
Other Reasons	
Homologous Antibody Formation by <u>Source Animal</u>	
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)	
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<u>Stability of Infectivity (effects)</u>		
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 2.5 dex	Control Titer 6.5 dex
Other (formalin, radiation)		
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<u>Virion Morphology</u>		
Shape Rhabdovirus morphology (2)	Dimensions	
Mean nm	Range nm	
Measurement Method Electron microscopy (2)	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

Hemagglutination Antigen Source Erythrocytes (species used)
No **SMB ext. by sucrose-acetone + sonication** **Goose**

pH Range pH Optimum
5.8-7.0

Temperature Range Temperature Optimum
RT and 37Cd

Remarks

Serologic Methods Recommended
CF, NT

Footnotes

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

At the IEC, the CF antigen of BeAr 177325 did not react with any of the grouping sera: A, B, C, Guama, Capim, Phlebotomus fever, Bunyamwera, or individual sera for: Acara, Pacui, Timbo, Chaco, Marco, Mirim, Jurona, Melao, Piry, Irituia, Tembe, Ieri, Turlock, Oropouche, Utinga, Lukuni, Amapari, Tacaiuma, Cocal, Agua Preta, Serra do Navio, EMC, GD VII, Belem, Cotia, Chandipura, Bertioga, SPAn 2220, Cayenne 404, Cayenne 564, Cayenne 241, trivittatus, Boracea, Trinita, Nariva, rabies, Anopheles A, Anopheles B, Manzanilla, Kwatta, Chagres, Changuinola, Sicilian SF, VSV, Karimabad, Gamboa, Moriche, and Herpes simplex.

Also, an immune serum (3 injections) to the agent was negative by HI against 4 units of the following antigens: EEE, WEE, Mayaro, Mucambo, yellow fever, Ilheus, Bussuquara, St. Louis, Caraparu, Itaqui, Catu, Guama, Bimiti, Murutucu, Nepuyo, Timboteua, Acara, Benfica, Benevides, Bushbush, Icoaraci, Bujaru, Turlock, and Tacaiuma.

At YARU, it was screened by CF at 1:4 and 1:40 against hyperimmune antisera to the following viruses, without finding any significant relationship: groups A, B, C, Guama, Capim, Bunyamwera, Simbu, VSV, Phlebotomus fever, Tacaribe, California, Sakhalin, Kemerovo; polyvalents Palyam, Quaranfil, Patois, rabies, etc.*, Anopheles A, etc.**, Congo, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 12, Bwamba; and specific sera to BeAr 185559, BeAn 238758, and mouse hepatitis.

Hyperimmune mouse serum to BeAn 177325 virus failed to react by CF with 193 antigens of nearly all of the arboviruses in the Yale Arbovirus Research Unit's collection.

* Rabies, LCM, NDV, Herpes simplex, vaccinia

** Groups Anopheles A, Anopheles B, and Turlock

Section VI - Biologic Characteristics

Virus Source (all VERTEBRATE isolates)

Lab Methods of Virus Recovery (ALL ISOLATIONS)
Newborn mice

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)	
Chick embryo (PC)	SM 10					No plaques		
Vero (CL)			No CPE					
HEp-2 (CL)			No CPE					

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
Lutzomyia flaviscutellata	1/658 pools *		Catu forest, Belem, Para, Brazil
Proechimys guyannensis		16/19 NT	
Oryzomys capito goeldii		3/73 NT	
Nectomys squamipes amazonicus		0/18 NT	
Philander o. opossum		0/5 NT	
Didelphis m. marsupialis		0/1 NT	
Guinea pig (sentinel)		0/1 NT	
Proechimys guyannensis		11/27 NT	APEG, Belem, Para, Brazil
Oryzomys capito goeldii		0/9 NT	
Oecomys sp.		0/2 NT	

Proechimys guyannensis	15/22 NT	Utinga forest, Belem Para, Brazil
Oryzomys capito goeldii	0/6 NT	
Echimys	0/1 NT	
Proechimys guyannensis	1/17 NT	Serra do Navio, Amapa, Brazil
Oryzomys capito	0/3 NT	
Proechimys sp.	11/22 NT	Altamira-Itaituba, km. 43, Para
Marsupials	0/32 NT	
Proechimys sp.	0/3 NT	Altamira-Maraba, km. 52, Para
Coendu sp.	1/1 NT	
Other rodents	0/2 NT	
Marsupials	0/9 NT	
Proechimys sp.	16/34 NT	Itaituba-Altamira, km. 25, Para
Other rodents	0/14 NT	
Didelphis spp.	0/14 NT	

* 61,137 specimens

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	Death	3.0	8.1
Mice (nb)		ip	Scattered deaths		
Mice (nb)	SM 6	ic	Viremia, death		5.0(serum)
Mice (wn)	SM 3	ic	Antibody		
Mice (wn)		ip	Antibody		
hamster (23 day)	SM 6	ic	Survived		
hamster (23 day)		ip	Survived		

Section IX - Experimental Arthropod Infection and Transmission

Arthropod species & virus source(a)	Method of Infection log10/ml (b)		Incubation period (c)		Transmission 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)	
<u>Inclusion Bodies</u>	<u>Intranuclear</u>
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) Amazon Region

Section XIII - References

1. Aitken, T.H.G. et al. 1975. Am. J. Trop. Med. Hyg. 24:358-368. 2. Tesh, R.B. Personal communication. 1982.
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Remarks
