

Virus Name: Pahayokee		Abbreviation: PAHV
Status Possible Arbovirus	Select Agent No	SALS Level 2
SALS Basis Results of SALS surveys and information from the Catalogue.		
Other Information		
Antigenic Group Patios		

SECTION I - Full Virus Name and Prototype Number

Prototype Strain Number / Designation FE3-52F	Accession Number	Original Date Submitted 10/19/1984
Family Bunyaviridae	Genus Bunyavirus	
Information From Arbovirology Unit	Address Center for Disease Control, Atlanta, Georgia 30333, USA	
Information Footnote Reviewed by editor		

Section II - Original Source

Isolated By (name) Arbovirus Ecology Lab	Isolated at Institute Arbovirology Unit, CDC, Atlanta, GA	
Host Genus Culex (Melanoconion) sp.	Species	Host Age/Stage 21 adults
Sex Female		
<u>Isolated From</u>	<u>Isolation Details</u>	
Signs and Symptoms of Illness	Arthropod	
Time Held Alive before Inoculation		
Collection Method CDC light trap	Collection Date 10/23/1963	
Place Collected (Minimum of City, State, Country) Mahogany Hammock, Everglades National Park, FL		
Latitude 25° N	Longitude 81° W	
Macrohabitat Palm-hardwood hammock	Microhabitat	Method of Storage until Inoculated -60dC
Footnotes		

Section III - Method of Isolation

Inoculation Date
2/20/1964

Animal (Details will be in Section 6)
nb mice

Route Inoculated
Intracerebral

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	Control Titer
Lipid Solvent (deoxycholate) 1:200	After Treatment Titer <3.2 dex	Control Titer 5.7 dex
Other (formalin, radiation)		

Virion Morphology

Shape Spherical particles	Dimensions 100 nm	
Mean 104 nmnm	Range nm	
Measurement Method Electron microscopy	Surface Projections/Envelope Envelope observed	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)

Yes

SM serum ext. by acetone

Goose

pH Range

pH Optimum

5.7-5.9

5.75

Temperature Range

Temperature Optimum

4dC - 37dC

37dC

Remarks

Difficult to obtain good hemagglutinin.

Serologic Methods Recommended

HI, CF, and NT

Footnotes

Difficult to obtain good hemagglutinin.

In CF testing, a SM liver antigen did not react with the following ascitic fluids: EEE, WEE, VEE, Mayaro, Una, Pixuna, Ilheus, SLE, yellow fever, dengue 2, Murray Valley encephalitis, Cache Valley, Tensaw, Silverwater, Turlock, California (La Crosse and trivittatus), Oropouche, Sathuperi, Aruac, Ieri, Sororoca, Anopheles A, Anopheles B, VS-Indiana, CTF, Buttonwillow, Flanders, Herpes simplex, Broad Group A, Broad Group B, Broad California, Broad Guama, Broad Capim, Broad Bunyamwera and Broad Simbu. A hyperimmune ascitic fluid of the prototype failed to inhibit hemagglutinins of EEE, WEE, SLE, MVE, LAC, Tensaw and Buttonwillow.

Immune Ascitic Fluid or Antigen	Pahayokee Antigen ^a			Pahayokee Hyperimmune Ascitic Fluid		
	HI ^b	CF ^c	NT ^d	HI	CF	NT
	Ht/Ho	Ht/Ho	Ht/Ho	Ht/Ho	Ht/Ho	Ht/Ho
Patois	10/160	64/64	0.0/>4.5	<10/40	16/64	0.8/3.2
Zegla	10/320	512/1024	2.5/>4.6	20/40	16/64	3.0/3.2
Shark River	10/640	512/512	0.1/>6.4	<10/40	16/64	0.5/3.2
Pahayokee	40	64	3.2	40	64	3.2
Broad Guama	10	<8	0.0			
Broad C	<10	<8	0.0			

^a Antigen prepared by acetone extraction of infectious mouse serum.

^b Titers expressed as reciprocal of highest serum dilution inhibiting 4-8 units of antigen.

^c Titers expressed as reciprocal of highest serum dilution fixing 5-50% units of complement in box CF.

^d Tissue culture neutralization index derived from plaque-reduction neutralization test in BHK-21 cells. Titers expressed as dex.

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)	
BHK-21 (CL)	SMB 14				5		5.2*	
GMK (CL)					5		<3.0	

* 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. tested Test used	Country and region
Culex (Mel) sp.	10/33,853		Everglades National Park, Florida, USA
Culex nigripalpus	1/134,265		

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 log ₁₀ /ml
Mice (nb)	SMB 14	ic 0.02	Illness and death	2-3	5.9*
Mice (nb)		ip			
Mice (nb)		sc			
Mice (wn)		ic 0.02	Illness and death	3-4	3.3
Mice (wn)		ip			

* Highest infectious titer in suckling mice found in serum and liver.

Section IX - Experimental Arthropod Infection and Transmission

Arthropod species & virus source(a)	Method of Infection log ₁₀ /ml (b)		Incubation period (c)		Transmission by bite (d)		Assay of arthropod, log ₁₀ /ml (e)		
	Feeding	Injected	Days	°C	Host	Ratio	Whole	Organ	System

Section X - Histopathology

Character of lesions (specify host)

Hepatitis; moderately severe with eosinophilic hyaline cytoplasmic inclusions (Councilman-like) and numerous smaller polychroma- tophilic cytoplasmic and extracellular inclusions. Severe thymic and adrenal medullary involution (nb mice).

Inclusion Bodies

Intranuclear

Lower Vertabrates

Organs/Tissues Affected

Secretory glands (LV)

Category of tropism

Viscerotropism

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)

Southern Florida, USA

Suspected (Antibody only detected)

Section XIII - References

1. Fields, B.N., et al. 1969. Am. J. Epidem. 89:222-226.

Remarks