Virus Name: Tamiami	Abbreviation: TAMV

Status
Not Arbovirus

Select Agent
No

SALS Level
2

SALS Basis
Level 2 arenaviruses are not known to cause serious acute disease in man and are not acutely pathogenic for laboratory animals, including primates. Survey experience is sufficient to conclude that laboratory aerosol infection does not occur in the course of routine work with cell cultures and animals not subject to chronic infection. In view of reported high frequency of laboratory aerosol infection that occurred in workers manipulating high concentrations of Pichinde virus, it is strongly recommended that work with high concentrations of Level 2 arenaviruses be done at Level 3.

Other Information

Antigenic Group
Tacaribe

SECTION I - Full Virus Name and Prototype Number

Prototype Strain Number / Designation
W 10777

Accession Number

Original Date Submitted
11/7/1984

Family
Arenaviridae

Genus
Arenavirus

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)
John Davie

Isolated at Institute
CDC, Atlanta, Georgia

Host Genus
Sigmodon hispidus (cotton rat)

Species

Host Age/Stage
Adult

Sex
Male

Isolated From	Isolation Details
Organs/Tissues	**Heart**

Signs and Symptoms of Illness
None

Arthropod

Time Held Alive before Inoculation

Collection Method
Box trap

Collection Date
1/5/1965

Place Collected (Minimum of City, State, Country)
Cowbone, Hendry County, Florida, USA

Latitude
26° 17' N

Longitude
81° 5' W

Macrohabitat
Elevation <25 feet; slash pine, palmetto, shrubs, grasses

Microhabitat
Open sandy grassland, planted to slash pine; limestone outcrops

Method of Storage until Inoculated
Mechanical freezer at -60dC

Footnotes

Section III - Method of Isolation

Inoculation Date
3/3/1965

Animal (Details will be in Section 6)
nb mice

Route Inoculated
Intracerebral

Reisolation
Yes

Other Reasons
No others of group ever in this lab. Also, 28 isolations in ERC Lab., Florida (1,4)

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) **1:200**	After Treatment Titer **<1.5 dex**	Control Titer **5.5 dex**

Other (formalin, radiation)
Labile at 56C/30 min

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)
No	**SMB ext. by sucrose-acetone crude preps**	**Goose***

pH Range	pH Optimum
5.9-7.2	

Temperature Range	Temperature Optimum
4dC - 37dC	

Remarks
*** Others tested including human "O", guinea pig, sheep, mouse and green monkey**

Serologic Methods Recommended
CF, NT, precipitin-in-gel

Footnotes
*** Others tested including human "O", guinea pig, sheep, mouse and green monkey**

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

No relationship by CF with the following viruses (W 10777 antigen): SLE, MVE, Cowbone Ridge, Modoc, Rio Bravo, dengue 1, dengue 3, MML, Cache Valley, Tensaw, Silverwater, Turlock, Mermet (AV-782), Oropouche, Highlands J, CE (BFS-283), trivittatus, La Crosse, VSI, VSNJ, Hart Park, Flanders, Mahogany Hammock; Broad: A, B, C, Bunyamwera, Guama, Shark River-Pahayokee, and Capim. Also mouse hepatitis, mouse adenovirus, reovirus 3, Theiler's (TO), and LCM.

Antibody or Viruses/antigens	Tamiami Antigen		Tamiami HIAF	
	CF [a]	Plaque NT [b]	CF	Plaque NT
W 10777	128/>128	16	128/>128	16
Pichinde	64/>64		4/4	
Amapari	32/>128	<4/512	8/8	<4/16
Tacaribe	8/32	<4/1024	<4/4	<4/16
Junin	8/128	<4/128	<4/<4	<4/16
Machupo	32/128	<4/256	<4/<4	<4/16
Parana	8/128		<4/<4	

CF tests conducted by Dr. J. Casals; plaque NT tests conducted by Dr. P.A. Webb.

[a] Serum titer/antigen titer

[b] Fixed virus dilutions; varying ascitic fluid dilutions; heterologous/homologous

Section VI - Biologic Characteristics

Virus Source (all VERTEBRATE isolates)
Blood (M) (LV), cerebro spinal fluid (M), CNS (LV), liver (LV), spleen (LV)

Lab Methods of Virus Recovery (ALL ISOLATIONS)
Newborn and weanling 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)
Duck embryo (PC)	W 10777		No CPE					
HEp 2 (CL)	SM 6		No CPE					
BHK-21 (CL)			No CPE					
"L" cells (CL)			No CPE					
Green monkey kidney (CL)					12	Faint, <1 mm		
Vero (CL)					9	Pinpoint, indistinct	5.7**	
Vero (CL)	W 11075 SM 11				9	<1 mm	6.9	
LLC-MK2 (CL)	W 10777 SM 6				8	Plaques	>4.0	

** 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
Miccosukee Indians		0/98 PRNT	Everglades, S. Florida (3)
Seminole Indians		5/131 PRNT	Big Cypress Reservation, Everglades, Florida (3)
Sigmodon hispidus	9/294		Everglades, S. Florida (2)
S. hispidus	28/912		Tampa Bay Area, Florida (1, 4)
S. hispidus, sentinel	1/356		
Oryzomys palustris (rice rat)	1/149		
Mosquitoes	0/>2x106		Everglades, S. Florida (2)

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 0.02	Death	15	5.0
Mice (nb)		ip 0.02	None		<3.0
Mice (nb)		sc			
Mice (wn)		ic 0.03	Death	19-20	3.3
Mice (wn)		ip 0.03	None		<3.0
Mice (nb)		im 0.02	Death	16	3.0
Mice (wn)		im 0.03	None		<3.0
Mice (nb)	SM 6	ic 0.02	Death	16	4.7
Mice (nb)	SM 8	ic 0.02	Death	9-10	9.0
cotton rats (4-9 day)	SM 6	ic 0.02	Antibody		7.0*
cotton rats (3-4 wk)		ic 0.03	Antibody		6.8*
white rats (2-4 day)		ic,sc	Sporadic deaths and antibody		7.5*
hamsters (3-4 wk)		ic,ip,sc	Antibody		8.0*
guinea pigs (200-350gm)		ip,sc	Antibody		>2.0*

* Infective dose50 determined by assay of antibody production.

Section IX - Experimental Arthropod Infection and Transmission

Arthropod species & virus source(a)	Method of Infection log10/ml (b)		Incubation period (c)		Transmision 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)
Swiss mice: encephalomyelitis; degeneration of isolated neurons, increase in mononuclear cells throughout the brain, infiltrating the meninges to a minor degree and surrounding the blood vessels. Scattered foci of necrosis.

Inclusion Bodies — Intranuclear
Lower Vertabrates

Organs/Tissues Affected
Brain (LV), spinal cord (LV)

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)
Florida, USA

Suspected (Antibody only detected)

Section XIII - References

1. Jennings, W., et al. 1970. Am. J. Trop.. Med. and Hyg. 19:527-536.
2. Calisher, C.H., et al. 1970. Am. J. Trop. Med. and Hyg. 19:520-526.
3. Nuckolls, J. Unpublished data.
4. Wellings, F.M., et al. 1972. Am. J. Trop. Med. and Hyg. 21:201-213.

Remarks