

**Virus Name: Pichinde**

**Abbreviation: PICV**

**Status:** Not Arbovirus

**SALS Level:** 2

**Antigenic Group:** Tacaribe

**Taxonomic status:** *Arenavirus*

**Other Information:** None.

**Select Agent:**

**SALS Basis:** A5

**HEPA Filtration:**

**Section I - Full Virus Name and Prototype Number**

**Full Virus Name:**

**Pichinde**

**Prototype Number:**

An 3739

**Information from:** Carlos Sanmartin

**Date:**

11/25/1984

**Address:** Cali Virus Laboratory, Universidad del Valle, Cali, Colombia

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Reviewed by editor

**Section II - Original Source**

**Isolated by:** Cali Virus Laboratory (1)

**at:** Cali, Colombia

**Genus and species:** *Oryzomys albigularis*

**Sentinel** X

**Age/Stage:** Young adult **Sex:** F

Isolated From	Isolation detail
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**Signs and symptoms of illness:** None observed

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

**Time held alive before inoculation:**

**Collection date:** 8/5/1965 **Method:** Trapped alive

**Place collected:** Pichinde Valley, Colombia

**Latitude:** 3° 25' " N

**Longitude:** 76° 35' " W

**Macrohabitat:** Fog forest at elevation of 1800 meters

**Microhabitat:** Forested ravine

**Method of storage until inoculated:** Screw capped vial at -60dC

**Footnotes:**

**Section III - Method of Isolation and Validity**

**Inoculation Date:** 8/17/1965

**Animal:** nb mice

**Embryonated egg:**

**Tissue Culture:**

(Details in Section VI - Biologic Char.)

**Route inoculated:** Intracerebral

**Reisolation:** Yes

**Other reasons:** No viruses of this group in the labor

**Homologous antibody formation by source animal** (See Section II):

**Test used:** HI

CF

NT

**Other:**

**Footnotes:**

#### Section IV - Virus Properties

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##### Physicochemical:

RNA: X DNA: Single Strand: X

Double Strand:

Pieces: 2 viral Infectivity: Sedimentation coefficient(s): /strong>30-31S; 22-24S

Percentage wt. of virion protein , lipid carbohydrate

##### Virion polypeptides:

Number: 4 (8) Details: VI, VII: 72,000 MW; VIII: ,000 MW; IV: 12,000 MW; VII, VIII = glycoproteins; VI = ribonucleoprotein (8).

##### Non-virion polypeptides:

Number: Details:

Virion density:

Sedimentation coefficient:

Nucleocapsid density

Sedimentation coefficient:

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Stability of infectivity (effects) pH Relatively thermostable; stable between pH 5.5 to 9.0 (5).

##### Lipid solvent:

(ether) After treatment titer Sensitive (5)

Control titer

(chloroform) After treatment titer

Control titer

##### Detergent:

(deoxycholate) 1:1000 After treatment titer <2.0 dex

Control titer 5.3 dex

Other (formalin, radiation): Replication not inhib. by IUDR and ara-C. Inhib. by 1-4 ,g/ml actinomycin D (5).

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##### Virion morphology:

Shape Dimensions 60-280 nm

Mean (nm) range (nm) how measured Electron microscopy (4)

Surface projections, envelope Envelope observed (4)

Nucleocapsid dimensions, symmetry

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##### Morphogenesis:

Site of constituent formation in cell

Site of virion assembly

Inclusion bodies

Other

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##### Hemagglutination:

Hemagglutination No Antigen source SMB ext. by sucrose-acetone

Erthrocytes Goose pH range 6.0-7.4

pH optimum

Temperature optimum range 4dC, 37dC

Remarks

Serologic methods recommended

Footnotes:

## Section V - Antigenic Relationship And Lack of Relationship To Other Viruses

Pichinde crude brain antigen did not react in CF with mouse immune ascitic fluids for A, B, C, and Bunyamwera groups, Tacaribe, Junin, Machupo and Amapari. A low titer (4/10) CF result was observed with Tacaribe group MIAF. By plaque NT the virus also was shown to be different from Tacaribe, Juninn, Machupo, Amapari and Tamiami [1] . Further CF tests with all known members of the Tacaribe group indicated that Pichinde is related to Tamiami [2] , [3] .

**Results of Complement-fixation tests [2]**

<b>Antigen</b>	<b>Immune ascitic fluid</b>	
	<b>Pichinde An 3739</b>	<b>Tamiami W-10777</b>
Pichinde	>256/32 *	4/4
Tamiami	64/>64	128/> 128

\* Serum titer/antigen titer

**Section VI - Biologic Characteristics**

**Virus source (all VERTEBRATE isolates):** Blood (LV), CNS (LV), lung (LV), liver (LV), spleen (LV), kidney (LV)

**Lab Methods of Virus Recovery (ALL ISOLATIONS):** Newborn mice, hamsters

**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)		4	CPE (1)		2	Plaques (5)		
BS-C-1 (CL)						Plaques (5)		
Rabbit kidney (PC)						Plaques (5)		
BHK-21 (CL)			Replication (8)					

**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
Oryzomys albicularis	45/230		Pichinde, Colombia
Oryzomys albicularis	7/32		Munchique, Colombia
Oryzomys albicularis	2/8		Guatape, Colombia
Thomasomys fuscatus	1/173		Pichinde, Colombia
Thomasomys fuscatus	0/5		Guatape, Colombia
Other rodents	0/771		Pichinde, Colombia
Other rodents	0/16		Munchique, Colombia
Other rodents	0/22		Guatape, Colombia
Marsupials	0/43		Pichinde, Colombia
Marsupials	0/4		Munchique, Colombia
Marsupials	0/4		Guatape, Colombia
Insectivore	0/1		Pichinde, Colombia
Carnivore	0/3		
Ixodes tropicalis larvae	4 pools		
Ixodes tropicalis nymphs	5 pools		
Gigantolaelaps inca	3 pools		
Gigantolaelaps sp.	1 pool		
Man (laboratory workers)		6/13 CF	USA (7)

Approximately 13,000 ectoparasites processed. All isolations were from ectoparasites collected on viremic hosts.

**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)	SM11, SH2	ic 0.02	Death	8.1	4.9*	
Mice (nb)		ip 0.05	Death	11.8	4.9	
Mice (nb)		sc				
Mice (wn)		ic				
Mice (wn)		ip				
Mice (6 wk)		ic 0.03	None observed			
Mice (6 wk)		ip 0.1	Production of CF antibody			
hamster (nb)		ic 0.03	Death	7.8	4.9	
hamster (nb)		ip 0.1	Death	9.6	4.9	
hamster (nb)		sc 0.1	Death	9.6	4.9	
hamster (ad)		ic 0.03	None observed		4.9	
hamster (ad)		ip 0.1	None observed		4.9	
hamster (ad)		sc 0.1	None observed		4.9	

\* The titer per ml. is based on ic inoculation of 0.02 ml in 2 day-old mice.

**Section IX - Experimental Arthropod Infection And Transmission**

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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**

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**Character of lesions:**

**Inclusion bodies:**

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

**Organs-tissues affected:**

**Category of tropism:**

**Section XI - Human Disease**

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**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**

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**Known (virus):**

Colombia

**Section XIII - References**

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1. Trapido, H. and Sanmartin, C. 1971. Am. J. Trop. Med. and Hyg. 20:631-641.
2. Calisher, C.H., et al. 1970. Am. J. Trop. Med. and Hyg. 19:520-526.
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9. Lukashevich, I.S., et al. 1984. Arch. Virol. 79:189-204.

**Section XIV - Remarks**

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