Virus Name: Tacaribe	Abbreviation: TCRV

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
TRVL 11573

Accession Number

Original Date Submitted
2/18/1985

Family
Arenaviridae

Genus
Arenavirus

Information From
Trinidad Regional Virus Laboratory

Address
P.O. Box 164, Port of Spain, Trinidad

Information Footnote
Reviewed by editor

Section II - Original Source

Isolated By (name)
TRVL (1)

Isolated at Institute
Port of Spain

Host Genus
Artibeus lituratus palmarum

Species

Host Age/Stage
Adult

Sex
Male

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

Signs and Symptoms of Illness

Arthropod

Time Held Alive before Inoculation

Collection Method
Bat caught in net

Collection Date
3/23/1956

Place Collected (Minimum of City, State, Country)
Port of Spain, Trinidad

Latitude
10° 40' N

Longitude
61° 30' W

Macrohabitat
Inside a building in the city, northwest Trinidad

Microhabitat
Not known

Method of Storage until Inoculated
Inoculated immediately

Footnotes

Section III - Method of Isolation

Inoculation Date
3/23/1956

Animal (Details will be in Section 6)
nb mice

Route Inoculated
Intracerebral

Reisolation
Yes

Other Reasons
Many strains of virus isolated later from bats of same genus.

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)	After Treatment Titer **2.5 dex**	Control Titer **7.6 dex (1)**

Other (formalin, radiation)

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**	**Goose**
pH Range **6.0-7.0**	pH Optimum	
Temperature Range **4dC, 37dC**	Temperature Optimum	

Remarks

Serologic Methods Recommended
CF, NT

Footnotes

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

Tacaribe virus is antigenically related to Junin virus [2] and more recently a third virus, Machupo, the agent of Bolivian hemorrhagic fever, has been found related to both Tacaribe and Junin. The name Tacaribe has been applied to this group or complex [3] . For information on this relationship consult Junin and Machupo Catalogue cards.
For list of viruses with which antigenic comparison has been made with negative results see Reference [1] .

Tacaribe group viruses shown to be related serologically to LCM virus ahd have been placed in Arenavirus group [2] , [8] .

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	
		Day (c)	Extent (d)	Titer TCD50/ml (e)	Day (c)	Size (f)	Titer PFU/ml (e)	+/- (g)	
Hamster kidney(PC)			Slight CPE						
HeLa (CL)		5-7	CPE (4)						
Vero (CL)						Plaques (5)			
Vero (CL)	P-23				2	2 mm	8.3** (6)		
LLC-MK2 (CL)					10	1 mm	7.0 (6)		

** 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
Man	0/2,500		Trinidad
Cebus apella (monkey)	0/26		
Alouatta (monkey)	0/79		
Birds	0/2,300		
Sentinel mice	0		
Artibeus jamaicensis trinitatis	9/242	0/8 NT	Port of Spain, Trinidad (1)
Artibeus lituratus palmarum	10/140	0/4 NT	
Desmodus rotundus	0/148	0/5 NT	
Other species of bats	0/320		
Bats (25 species)		15/101 NT	Trinidad (10)
Mixed mosquito pool	1/344		Rio Grande Forest, Trinidad

NT: Technical difficulties with the NT (variable and low virus titers) have delayed studies of immunity in vertebrates.

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)	SMB 18	ic 0.02	Death	9*	6.5
Mice (nb)		ip 0.03	Death	11*	2.0
Mice (nb)		sc			
Mice (wn)		ic 0.03	Death	7	2.0
Mice (wn)		ip 0.5	No illness		
emb eggs (6 day)	SMB 20	ys 0.5	Kills embryos irregularly	7-8	
		am.s.	No propagation		
		al.c.	No propagation		
rabbit (ad)		ip	No illness; antibodies		

Artibeus jamaicensis trinitatis and A. lituratus palmarum inoculated intramuscularly with 10,000 LD50. No circulating virus. Virus recovered from occasional animal one to two weeks post-inoculation. No pre-immunity detectable by NT. Post-inoculation immunity detectable in only one animal (1). Desmodus rotundus (""vampire"" bat) no detectable pre-immunity. Inoculated IM with 185 LD50; 4 out of 20 bats with virus in organs at 5 and 7 days (1).

* When infecting dose is about 100 LD50

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)
"Non-specific inclusion bodies" are seen on Seller's stained smears of primary bat and secondary mouse brain material (1).**

Inclusion Bodies — Intranuclear

Organs/Tissues Affected

Category of tropism

Section XI - Human Disease

In Nature	Residual	Death
Subclinical	Overt Disease **Reported**	
Clinical Manifestations		
Number of Cases	Category (i.e. febrile illness, etc.) **Port of Spain, Trinidad**	

Section XII - Geographic Distribution

Known (Virus detected)

Suspected (Antibody only detected)

Section XIII - References

1. Downs, W.G., et al. 1963. Am. J. Trop. Med. Hyg. 12:640-646.
2. Mettler, N.E., et al. 1963. Am. J. Trop. Med. Hyg. 12:647-652.
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6. Stim, T.B. 1969. J. Gen. Virol. 5:329-338.
7. Rowe, W.P., et al. 1970. J. Virol. 5:289-292.
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9. Besuschio, S.C., et al. 1973. Arch. ges. Virusforsch. 40:21-28.
10. Price, J.L. 1978. Am. J. Trop. Med. Hyg. 27:162-167.
11. Bishop, D.H.L. and Casals, J. Personal communication. 1979.

Remarks

**** Newborn mice inoc. ic showed choroiditis, gliosis vasculitis, perivasculitis with lymphocytic infiltration in CNS. Thymectomy abolished histopath. response (9).**