Virus Name: Tlacotalpan	Abbreviation: TLAV

Status
Possible Arbovirus

Select Agent
No

SALS Level
3

SALS Basis
Isufficient experience with virus; i.e., experience factor from SALS surveys was less than 500 in laboratory facilities with low biocontainment.

Other Information

Antigenic Group
Bunyamwera

SECTION I - Full Virus Name and Prototype Number

Prototype Strain Number / Designation
61D240

Accession Number

Original Date Submitted
8/3/1984

Family
Bunyaviridae

Genus
Bunyavirus

Information From
William F. Scherer

Address
Cornell University Medical College, Department of Microbiology, New York, N.Y. 10021

Information Footnote
Revised

Section II - Original Source

Isolated By (name)
W.F. Scherer, et al. (1)

Isolated at Institute
Cornell U., New York, N.Y.

Host Genus
Mansonia titillans (pool of 100 mosquitoes)

Species

Host Age/Stage
Adult

Sex
Female

Isolated From

Isolation Details

Signs and Symptoms of Illness

Arthropod
Engorged

Time Held Alive before Inoculation

Collection Method
Pig-baited modified Magoon trap

Collection Date
8/9/1961

Place Collected (Minimum of City, State, Country)
Tlacotalpan, Veracruz, Mexico

Latitude
18° N

Longitude
95° W

Macrohabitat
Savannah and river delta

Microhabitat
River bank

Method of Storage until Inoculated
Dry ice and electric freezer at -60dC

Footnotes

Section III - Method of Isolation

Inoculation Date
5/25/1962

Animal (Details will be in Section 6)
nb mice

Route Inoculated
ic and sc

Reisolation
Yes

Other Reasons

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) **0.5%**	After Treatment Titer **reduced >1.5 dex**	Control Titer

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 **No***	Antigen Source	Erythrocytes (species used)
pH Range	pH Optimum	
Temperature Range	Temperature Optimum	

Remarks
*** R.E. Shope has obtained a hemagglutinin in low titer from infected suckling mouse brain.**

Serologic Methods Recommended
CF, NT

Footnotes
*** R.E. Shope has obtained a hemagglutinin in low titer from infected suckling mouse brain.**

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

Fixed complement with Bunyamwera virus antiserum. Neutralized by Cache Valley, Maguari, Tensaw, Kairi, Batai (Calovo) and Bunyamwera but not by Germiston or Ilesha virus antisera. Tlacotalpan virus antiserum did not neutralize Tensaw or Kairi and only partially neutralized Cache Valley, Maguari, and Batai viruses [1] .
Presently, SIRACA considers Tlacotalpan virus to be a variety ov Cache Valley virus [3] .

Recently, two strains of a single virus were isolated, one from an apparently healthy cow, and one from a sick ram in northestern Texas. This virus was shown to be closely related antigenically to Cache Valley and Tlacotalpan viruses. Both Tlacotalpan virus and the virus from livestock were considered to be varieties of Cache Valley virus [2] .

Section VI - Biologic Characteristics

Virus Source (all VERTEBRATE isolates)
Blood (LV)

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)	61D240 61C1 61C142, SM4 or 5		No CPE						
Chicken embryo (PC)	61D240					Plaques*			
Duck embryo (PC)						Plaques*			
HeLa (CL)	61D240, SM 8	3	4+	6.0**					
L (mouse) cells (CL)	61D240	6-15	4+ (but prozone noted)						

* Noble agar with DEAE dextran 100-200 g/ml. Not under regular agar or without DEAE dextran.

** 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
Mansonia titillans	1		Tlacotalpan, Veracruz Mexico; 1961
Anopheles albimanus	1		
Anopheles spp.	1		
Aedes taeniorhynchus	4		Tlacotalpan, Veracruz Mexico; 1963
Man		7/38 NT	Tlacotalpan, Veracruz Mexico
Man		0/20 NT	Coatatelco, Morelos, Mexico
Cattle		14/42 NT	SE Mexico
Cattle		1/7 NT	Westcoast Mexico
Pigs		3/24 NT	SE Mexico
Chickens		0/36 NT	

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)	61D240 or	ic 0.01	CNS signs and death	2-3	9
Mice (nb)	61Cl	ip 0.01	CNS signs and death	2-3	7.4
Mice (nb)		sc			
Mice (wn)	61D240 and 61C1	ic 0.03	CNS signs and death	4-8	
Mice (wn)		ip 0.03	No illness or death		
guinnea pigs (ad)	61D240	ip 0.03	No illness or death		

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)

Inclusion Bodies — Intranuclear

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)
Mexico

Suspected (Antibody only detected)

Section XIII - References

1. Scherer, W.F., et al. 1967. Am. J. Trop. Med. Hyg. 16:79-91.
2. McConnell, S., et al. Personal communication. 1984.
3. Calisher, C.H., et al. 1985. Intervirology. To be submitted.

Remarks