Virus Name: Chilibre	Abbreviation: CHIV

Status
Probable Arbovirus

Select Agent
No

SALS Level
2

SALS Basis
Results of SALS surveys and information from the Catalogue.

Other Information

Antigenic Group
Phlebotomus Fever

SECTION I - Full Virus Name and Prototype Number

Prototype Strain Number / Designation
VP-118D

Accession Number

Original Date Submitted
8/5/1984

Family
Bunyaviridae

Genus
Phelbovirus

Information From
Robert B. Tesh

Address
Yale Arbovirus Research Unit

Information Footnote
Revised

Section II - Original Source

Isolated By (name)
R. Tesh and P. Peralta (1)

Isolated at Institute
MARU, Panama

Host Genus
Lutzomyia (mixed species)

Species

Host Age/Stage
87 adults

Sex
Female

Isolated From

Isolation Details

Signs and Symptoms of Illness

Arthropod
Depleted

Time Held Alive before Inoculation
12-14 hrs on wet ice

Collection Method
Hand aspirator

Collection Date
9/30/1969

Place Collected (Minimum of City, State, Country)
Limbo Hunt Club, Canal Zone, Panama

Latitude
9° 10' N

Longitude
79° 44' W

Macrohabitat
Moist tropical forest

Microhabitat
Tree buttresses

Method of Storage until Inoculated
Liquid nitrogen, then at -60dC

Footnotes

Section III - Method of Isolation

Inoculation Date
10/13/1969

Animal (Details will be in Section 6)
(Tissue Culture)

Route Inoculated

Reisolation
Yes

Other Reasons

Homologous Antibody Formation by Source Animal

Test(s) Used

Footnotes

Section IV - Virus Properties

Physicochemical
RNA, Single Strand

Pieces (number of genome segments) **X**	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) **5%, 10 min**	After Treatment Titer **<2.8 dex**	Control Titer **4.9 dex**
Lipid Solvent (deoxycholate)	After Treatment Titer	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 **Not tried**	Antigen Source	Erythrocytes (species used)
pH Range	pH Optimum	
Temperature Range	Temperature Optimum	

Remarks

Serologic Methods Recommended
NT

Footnotes

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

Despite five serial blind passages (ic) in newborn mice and hamsters, Chilibre virus did not produce illness or death in these animals. Attempts to produce CPE and CF antigen with Chilibre in MA-111, BHK-21, L-cells, LLC-MK2, primary mouse embryo, and primary RMK cells were also unsuccessful, thus CF tests were not performed.
Cross-neutralization tests (plaque method) using Chilibre virus and hyperimmune hamster sera (hamsters immunized with infected Vero cells; homologous titer = 1024) were done against each of the following viruses and specific antisera with negative results: Naples, Punta Toro, Chagres, Icoaraci, Candiru, Itaporanga, Karimabad, Sicilian, Gabek Forest, Anhanga, Urucuri, Salehabad, Buenaventura, Frijoles, Nique, Caimito, Cacao, Aguacate, Charleville, Rift Valley fever, Alenquer, Gordil, Saint-Floris, Tehran, Toscana, and Itaituba.
Slight neutralizing activity against Chilibre virus was noted with Pacui, Bujaru and Arumowot antisera as follows:

	Virus			
Antiserum	**Chilibre**	**Pacui**	**Bujaru**	**Arumowot**
Chilibre	1024 *	<16	<16	<16
Pacui	64	4096	<16	<16
Bujaru	16	<16	<16	<16
Arumowot	64	<16	<16	2048

* Reciprocal of highest serum dilution giving >90% plaque reduction .

Section VI - Biologic Characteristics

Virus Source (all VERTEBRATE isolates)

Lab Methods of Virus Recovery (ALL ISOLATIONS)
Vero cell cultures

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)	
Vero (CL)	Vero 3	6	3-4+		10	<1 mm	6.3**		

Chilibre virus did not produce CPE in cell lines MA-111, BHK-21, LLC-MK2, L cells, and primary mouse embryo or RMK cells.

** 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
Lutzomyia sp. (males)	1/70,043		Canal Zone, Panama(1)
Lutzomyia sp. (females)	1/86,202		
Lutzomyia trapidoi (males)	0/9,906		
Lutzomyia trapidoi (females)	0/63,985		
Lutzomyia ylephilatrix (females)	0/24,376		

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)	Vero 3(VP-1180)	ic 0.02	None (despite 5 blind passages)		
Mice (nb)		ip			
Mice (nb)		sc			
Mice (wn)		ic			
Mice (wn)		ip			
hamster (nb)		ic 0.02	No illness		
hamster (wn)		ip 0.1	Antibody		

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
Aedes albopictus		1.1	10	32			2.9		Plaques in Vero cell cultures (3)
Culex quinquefasciatus		1.1	10	32			<1.0		Plaques in Vero cell cultures (3)

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)
Panama

Suspected (Antibody only detected)

Section XIII - References

1. Tesh, R.B., et al. 1974. Am. J. Trop. Med. Hyg. 23:258-269.
2. Tesh, R.B., et al. 1975. Am. J. Trop. Med. Hyg. 24:135-144.
3. Tesh, R.B., et al. 1975. J. Med. Ent. 12:1-4.

Remarks