Virus Name: Itaqui	Abbreviation: ITQV

Status
Arbovirus

Select Agent
No

SALS Level
2

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

Other Information

Antigenic Group
C

SECTION I - Full Virus Name and Prototype Number

Prototype Strain Number / Designation
BeAn 12797

Accession Number

Original Date Submitted
1/27/1985

Family
Bunyaviridae

Genus
Bunyavirus

Information From
Robert E. Shope

Address
Yale Arbovirus Research Unit, New Haven, Connecticut

Information Footnote
Reviewed by editor

Section II - Original Source

Isolated By (name)
Belem Virus Lab. (1)

Isolated at Institute
Belem, Para, Brazil

Host Genus
Swiss mouse (1) . Sentinel

Species

Host Age/Stage
Adult

Sex
Female

Isolated From	Isolation Details
Whole Blood	

Signs and Symptoms of Illness

Arthropod

Time Held Alive before Inoculation

Collection Method
Tail bleeding

Collection Date
9/2/1959

Place Collected (Minimum of City, State, Country)
Instituto Agronomico do Norte Forest, Brazil

Latitude
2° S

Longitude
48° W

Macrohabitat
Old secondary forest

Microhabitat
One meter from ground, under hood

Method of Storage until Inoculated

Footnotes

Section III - Method of Isolation

Inoculation Date
9/2/1959

Animal (Details will be in Section 6)
nb mice

Route Inoculated
Intracerebral

Reisolation

Other Reasons
Isolation of same virus from two infants of same exposed mouse group

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	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	Antigen Source	Erythrocytes (species used)
Yes	**SM serum; SM liver ext. by acetone, sucrose-aceton + sonication(6)**	**Goose**
pH Range	pH Optimum	
5.7-6.4	**6.0**	
Temperature Range	Temperature Optimum	
	27dC	

Remarks

Serologic Methods Recommended
CF, HI, NT

Footnotes

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

Related by HI and NT to Oriboca; by CF to Caraparu [1] , [2] .

SIRACA has antigenically classified Itaqui virus as a subtype of Oriboca virus. Both viruses have been placed in the Oriboca complex, one of four complexes comprising group C [12] .

Section VI - Biologic Characteristics

Virus Source (all VERTEBRATE isolates)
Blood (M)(LV), pooled liver and spleen (LV)

Lab Methods of Virus Recovery (ALL ISOLATIONS)
Newborn mice and monkey kidney cell culture (1)

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)
HeLa (CL)			CPE (3)					6-7
BHK-21 (CL)		6-7	2+ - 3+	4.8* (8)				
GMK (CL)			CPE (9)					
Vero (CL)	Prototype				8	1 mm	5.3* (11)	
LLC-MK2 (CL)					3	2 mm	5.6 (11)	

* 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 (blood)	1		Para, Brazil
Sentinel Cebus (blood)	4		
Sentinel mouse	318/16,315		
Sentinel hamsters	2		
Metachirus nudicaudatus	1		
Proechimys guyannensis	4		
Oryzomys capito	4		
Nectomys squamipes	3		
Marmosa murina	1		
Culex vomerifer	10		Para, Brazil
Culex portesi	3		
All other Culex	7		

In nearly all cases, rodent and marsupial isolations were from the blood. HI antibody between 14% and 33% in rodents, rare in marsupials of Para, Brazil

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)		ic 0.02	Death	1.0	7.3
Mice (nb)		ip 0.02	Death	1.0	
Mice (nb)		sc			
Mice (wn)		ic 0.03	Some die		
Mice (wn)		ip 0.03	Antibody		
hamster (ad)		ic,sc	Death (5)	2.0-3.0	
rehsus monkey (ad)		sc	Irregular viremia (7)		

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)
ad, nb mice; ic and ip: mouse brain - hydropic tumefaction, perivascular infiltration. Mouse liver - diffuse necrosis with sparing of the centrolobular portion (10). No lesions were found in monkeys (4).

Inclusion Bodies — Intranuclear

Organs/Tissues Affected
Brain (LV), liver (LV);

Category of tropism
Neurotropic, hepatotropic (mouse)

Section XI - Human Disease

In Nature	Residual	Death
Reported		

Subclinical	Overt Disease

Clinical Manifestations
Fever (R), headache (R), myalgia (R)

Number of Cases	Category (i.e. febrile illness, etc.)
One	**Febrile illness**

Section XII - Geographic Distribution

Known (Virus detected)
Brazil

Suspected (Antibody only detected)

Section XIII - References

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Remarks