

Virus Name: Irituia		Abbreviation: IRIV
Status Possible Arbovirus	Select Agent No	SALS Level 2
SALS Basis Results of SALS surveys and information from the Catalogue.		
Other Information		
Antigenic Group Changuinoal		

SECTION I - Full Virus Name and Prototype Number

Prototype Strain Number / Designation BeAn 28873	Accession Number	Original Date Submitted 2/27/1985
Family Reoviridae	Genus Orbivirus	
Information From Belem Virus Lab	Address Belem Virus Laboratory, Instituto Evandro Chagas, Belem, Para, Brazil	
Information Footnote Reviewed by editor		

Section II - Original Source

Isolated By (name) Belem Virus Laboratory	Isolated at Institute Belem, Para, Brazil	
Host Genus Oryzomys sp.	Species	Host Age/Stage Adult
Sex Not Answered		
<u>Isolated From</u>	<u>Isolation Details</u>	
Serum/Plasma		
Signs and Symptoms of Illness None observed	Arthropod	
Time Held Alive before Inoculation		
Collection Method Trapped	Collection Date 3/29/1961	
Place Collected (Minimum of City, State, Country) Belem, Brasilia Highway, km 92, Brazil		
Latitude 3° S	Longitude 48° W	
Macrohabitat Virgin forest	Microhabitat Ground level	Method of Storage until Inoculated Not stored
Footnotes		

Section III - Method of Isolation

Inoculation Date 3/29/1961	
Animal (Details will be in Section 6) nb mice	
Route Inoculated Intracerebral	Reisolation Yes
Other Reasons	
Homologous Antibody Formation by <u>Source Animal</u> 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)	
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<u>Stability of Infectivity (effects)</u>		
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) 1:1000	After Treatment Titer 3.8 dex	Control Titer 5.0 dex
Other (formalin, radiation) Labile at pH 3.0; relatively stable to lipid solvents and SDC (7)		
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<u>Virion Morphology</u>		
Shape	Dimensions 65-80 nm	
Mean nm	Range nm	
Measurement Method Electron microscopy (6)	Surface Projections/Envelope Envelope absent (6)	Nucleocapsid Dimensions, Symmetry Icosahedral symmetry (6)

Morphogenesis

Site of Constituent Formation in Cell	Site of Virion Assembly	Site of Virion Accumulation
Inclusion Bodies	Other	

Hemagglutination

Hemagglutination Yes	Antigen Source BHK-21 cells, clone 13; untr. cent. cell cult. fl. 48 hr post- infection.	Erythrocytes (species used) Human O
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pH Range 6.0-7.2	pH Optimum 7.2
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Temperature Range	Temperature Optimum
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Remarks

Serologic Methods Recommended
CF, NT

Footnotes

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

Related by CF to Changuinola (BT 436).

By CF testing not related to Groups A, B, C, Guama, California, Bunyamwera or Capim; or to Oropouche, Mirim, Tacaiuma, Piry, Icoaraci, Pacui or Acara.

Comparison of Changuinola with Irituia by CF as follows:

Antigens	Mouse Hyperimmune Sera	
	BT 436	BeAn 28873
Changuinola (BT 436)	16/32 *	32/32
Irituia (BeAn 28873)	0/0	64/32
Normal brain	0/0	0/0

* Serum titer over antigen titer.

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 +/- (g)
		Day (c)	Extent (d)	Titer TCD50/ml (e)	Day (c)	Size (f)	Titer PFU/ml (e)	
BHK-21 (CL)	P-7				4-5	Plaques	5.2** (2)	
Chick embryo (PC)						Plaques (2)		
HeLa (CL)	SMB 2		CPE	3.7** (3)				
Vero (CL)	P-8				4	1 mm	7.6 (4)	
LLC-MK2					3	4 mm	7.1 (4)	
Aedes aegypti(CL)			Multiplication (5)					
Ae albopictus (CL)			Multiplication (5)					

** 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
Oryzomys sp.	1		Para, Brazil (1)

3 CF-related strains isolated from Lutzomyia spp. (phlebotomines) in Para, Brazil, are separable by NT from BeAn 28873 and from each other.

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 log ₁₀ /ml
Mice (nb)	SMB 3	ic 0.02	Death	2.5	6.2
Mice (nb)		ip 0.02	None		
Mice (nb)		sc			
Mice (wn)		ic 0.03	Antibody		
Mice (wn)		ip 0.03	Antibody		

Section IX - Experimental Arthropod Infection and Transmission

Arthropod species & virus source(a)	Method of Infection log ₁₀ /ml (b)		Incubation period (c)		Transmission by bite (d)		Assay of arthropod, log ₁₀ /ml (e)		
	Feeding	Injected	Days	°C	Host	Ratio	Whole	Organ	System

Section X - Histopathology

Character of lesions (specify host)

SM: encephalitis only (L.B. Dias)

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)

Brazil

Suspected (Antibody only detected)

Section XIII - References

1. Woodall, J.P. 1967. Atas. Simpos. Biota Amazon. 6:31-63.
2. Pinheiro, F.P. Personal communication.
3. Buckley, S.M. 1964. Proc. Soc. Exp. Biol. Med. 116:354-358.
4. Stim, T.B. 1969. J. Gen. Virol. 5:329-338.
5. Buckley, S.M. 1972. J. Med. Ent. 9:168-170.
6. Murphy, F.A., et al. 1971. J. Gen. Virol. 13:273-288.
7. Borden, E.C., et al. 1971. Ibid. 13:261-271.

Remarks