Virus Name: Cuiaba	Abbreviation: CUIV

Status
Possible Arbovirus

Select Agent
No

SALS Level
2

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

Other Information

Antigenic Group
Mossuril

SECTION I - Full Virus Name and Prototype Number

Prototype Strain Number / Designation
BeAn 227841

Accession Number

Original Date Submitted
4/13/1985

Family
Rhabdoviridae

Genus

Information From
F.P. Pinheiro and Amelia P.A.T. Rosa

Address
Instituto Evandro Chagas, FSESP, Ministry of Health, CP-621, Belem, Para, Brazil

Information Footnote
Reviewed by editor

Section II - Original Source

Isolated By (name)
F. Pinheiro and Amelia P.A.T. Rosa

Isolated at Institute
Instituto Evandro Chagas

Host Genus
Bufo marinus (toad)

Species

Host Age/Stage
adult

Sex
Not Answered

Isolated From	Isolation Details
Whole Blood	

Signs and Symptoms of Illness

Arthropod

Time Held Alive before Inoculation

Collection Method

Collection Date
11/17/1972

Place Collected (Minimum of City, State, Country)
Santarem-Cuiaba Highway, km. 84, Para

Latitude
3° 2' S

Longitude
54° 55' E

Macrohabitat
tropical rain forest

Microhabitat
ground level

Method of Storage until Inoculated
at -60dC

Footnotes

Section III - Method of Isolation

Inoculation Date
5/16/1973

Animal (Details will be in Section 6)
nb mice

Route Inoculated
intracerebral

Reisolation
Yes

Other Reasons

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) **1:1000**	After Treatment Titer **2.3 dex**	Control Titer **2.6 dex**

Other (formalin, radiation)

Virion Morphology

Shape **bullet-shaped virions**	Dimensions	
Mean nm	Range nm	
Measurement Method **by electron microscopy**	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 and sonication**	**goose b**
pH Range **5.8 - 7.0**	pH Optimum	
Temperature Range **room, 37dC**	Temperature Optimum	

Remarks

Serologic Methods Recommended
CF and NT b frog erythrocytes also tried.

Footnotes

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

Cuiaba virus antigen failed to react by CF with the following hyperimmune fluids: Groups A, B, C, Guama, Capim, Phlebotomus fever, and Bunyamwera as well as Mirim, Pacui, Acara, Melao, Jurona, Tembe, Lukuni, Cocal, Marco, Utinga, Oropouche, Timbo, Turlock, Amapari, Irituia, Chaco, Ieri, Tacaiuma, Kwatta, Piry, BeAn 58058 (Cotia-like), Agua Preta, Serra do Navio, Belem, Araguari, Inhangapi, Triniti, herpes simplex, rabies, EMC, Cotia, mouse hepatitis virus, Mosqueiro, Aruac, Pacora-like (BeAn 292426), Sena Madureira, BeAn 306770, Mojui dos Campos, Para, Santarem, Mapuera, BeAn 263191, Jacareacanga, Itupiranga, Xiburema, and Flexal.
In addition, no reaction by CF was found with the following NIH immune grouping fluids: Groups A, B, C, Guama, Capim, California, Bunyamwera, Phlebotomus fever, Tacaribe, Kemerovo, VSV, Simbu, polyvalents 1, 2 3, 4, 5, 6, 7, 8, 9, 10, 12, Bwamba, Congo, Patois, Quaranfil, Palyam, Anopheles A, and rabies/LCM. Cuiaba virus immune serum (homologous CF = 128/128) was negative by HI against four units of the following antigens: EEE, WEE, Mayaro, Mucambo, yellow fever, Bussuquara, Ilheus, St. Louis, Caraparu, Catu, Guaroa, Utinga, Oropouche, Itaporanga, Candiru, Tacaiuma, Belem, and Araguari.
At YARU, Cuiaba virus antigen and its hyperimmune serum (homologous titer = 128/128) were cross-tested by CF against each of the following antigens and specific antisera of rhabdoviruses with negative results: Hart Park, Flanders, Mosqueiro, Sawgrass, New Minto, Connecticut, Kwatta, BeAn 157575, Timbo, Chaco, Sena Madureira, Mossuril, Kamese, Bangoran, Barur, Kern Canyon, Keuraliba, Marco, VS-Indiana, Cocal, VS-New Jersey, Piry, Chandipura, Isfahan, Jurona, DakA94, DakMg802, rabies, Lagos bat, Mokola, Duvenhage, Obodhiang, kotonkan, Almpiwar, Aruac, Inhangapi, Joinjakaka, Klamath, La Joya, Mt. Elgon bat, Navarro, Porton S, Yug Bogdanovac, Tibrogargan, and sera only for Gray Lodge, BEF, and VS-Alagoas viruses. Cuiaba virus antigen cross- reacted only with Charleville antiserum [1] .

Complement-Fixation Test

Antigens	Sera		
	BeAn 227841	Charleville	Control
BeAn 227841	128/128 [c]	32/32	0
Charleville	0	256/128	0

Serum titer/antigen titer; 0 = <4/<4

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)
Vero (CL)	SMB 13	9	CF antigen in fluid			No plaques		+

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
Toads (blood)	1/7		Santarem-Cuiaba highway, km. 84, Brazil
Rodents	0/241		
Marsupials	0/44		
Primates	0/13		
Other vertebrates	0/8		
Culicidae	0/5,440		
Phlebotomines	0/4		

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 3	ic 0.02	death	5.7	
mice (nb)		ip 0.02	irregular deaths		
mice (nb)		sc			
mice (wn)		ic 0.03	none		
mice (wn)		ip 0.03	none		

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)

Suspected (Antibody only detected)

Section XIII - References

1. Tesh, R.B., et al. 1983. J. Gen. Virol. 64:169-176.

Remarks