

Virus Name: Purus		Abbreviation: PURV
Status Possible Arbovirus	Select Agent No	SALS Level 3
SALS Basis Insufficient experience with virus; i.e., experience factor from SALS surveys was less than 500 in laboratory facilities with low biocontainment.		
Other Information		
Antigenic Group Changuinola		

SECTION I - Full Virus Name and Prototype Number

Prototype Strain Number / Designation BeAr 361064	Accession Number	Original Date Submitted 9/26/1984
Family Orbivirus	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) Gilberta Bensabath	Isolated at Institute Instituto Evandro Chagas	
Host Genus Psorophora (Jan) albipes, pool of 25 (1)	Species	Host Age/Stage adult
Sex Female		
<u>Isolated From</u>	<u>Isolation Details</u>	
Signs and Symptoms of Illness	Arthropod Depleted	
Time Held Alive before Inoculation 2-3 hours		
Collection Method human bait at ground level	Collection Date 12/1/1977	
Place Collected (Minimum of City, State, Country) Sena Madureira (Bairro Triangulo), Acre		
Latitude 9° 3' S	Longitude 68° 39' W	
Macrohabitat secondary growth forest	Microhabitat ground level	Method of Storage until Inoculated liquid nitrogen and mechanical freezer (-60dC)
Footnotes		

Section III - Method of Isolation

Inoculation Date
2/8/1980

Animal (Details will be in Section 6)
nb mice

Route Inoculated intracerebral	Reisolation No
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Other Reasons

Homologous Antibody Formation by Source Animal

Test(s) Used

Footnotes

Section IV - Virus Properties

Physicochemical
RNA, Double Strand

Pieces (number of genome segments) 10	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 3.6 dex	Control Titer 3.5 dex
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

Hemagglutination

Antigen Source

Erythrocytes (species used)

No

SMB ext. by sucrose-acetone + sonication

goose

pH Range

pH Optimum

5.8-7.0

Temperature Range

Temperature Optimum

room, 37dC

Remarks

Serologic Methods Recommended

CF and NT

Footnotes

A CF antigen and antibody for virus strain BeAr 361064, with a homologous titer of 256/32, reacted with Changuinola virus and various other viruses of the Changuinola serogroup. Results of neutralization testing are presented below.

Virus	Neutralization Test (Newborn Mice, ic Route)											
	Sera											
	IRI	GUR	OUR	CAN	JAM	ALT	CGL	Purus	Jari	Monte Dourado	Saraca	Almeirim
Irituia	2.4 ^a						0.6	0.3	0.3	0.0	0.0	0.7
Gurupi		2.6					0.7	<=1.7	0.0	0.9	1.0	0.9
Ourem			3.7				0.3	1.2	1.2	0.6	0.7	0.3
Caninde				3.0			<=0.3	0.8	0.8	0.1	1.9	0.4
Jamanxi					3.1		<=0.6	0.8	<=0.2	0.6	<=0.2	<=0.2
Altamira						3.6	<=0.3	1.2	<=0.8	1.0	<=0.8	<=0.5
Changuinola	<1.0	<1.1	<1.0	<1.0	<1.1	<1.0	2.1	<=1.0	<=1.0	<=1.1	<=1.0	<=1.0
Purus	0.6	0.4	0.6	0.7	0.3	0.4	1.0	2.5	0.0	0.2	<=0.5	0.3
Jari	0.6	0.6	0.0	0.4	0.4	0.8	0.3	<=0.1	1.7	0.0	0.0	0.0
Monte Dourado	<=0.7	<=0.7	0.7	1.4	<=0.8	<=0.7	<=0.5	1.2	<=0.4	3.0	<=0.7	0.8
Saraca	<=0.8	<=0.8	<=0.8	1.7	<=0.9	<=0.8	<=1.2	1.1	<=1.0	<=0.8	3.0	<=1.1
Almeirim	0.0	0.5	<=0.3	<=0.3	<=0.3	<=0.3	0.4	0.8	0.0	<=0.3	0.2	2.4

^a LNI in dex

Section VI - Biologic Characteristics

Virus Source (all VERTEBRATE isolates)

Lab Methods of Virus Recovery (ALL ISOLATIONS)
newborn mice

Cell system (a)	Virus passage history (b)	Evidence of Infection							Growth Without CPE +/- (g)
		CPE			PLAQUES				
		Day (c)	Extent (d)	Titer TCD50/ml (e)	Day (c)	Size (f)	Titer PFU/ml (e)		
Vero (CL)	SMB 3	6	4+		8	1mm	5.5 ^b		

^b 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
Psorophora (Jan) albipes	1/14,871		Sena Madureira area, Acre State, Brazil
Other Culicidae	0/152,121		
Phlebotomines (females)	0/796		
Phlebotomines (males)	0/466		

Purus virus was not isolated from blood or viscera of the following animals captured in Sena Madureira from 1976 to 1978: 252 marsupials, 945 rodents, 17 primates, 1 edentate, 63 bats, 173 reptiles, 617 wild birds, and 680 domestic birds.

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 4	ic 0.02	illness, death	3.5	
mice (nb)		ip 0.02	survived		
mice (nb)		sc			
mice (wn)		ic 0.03	survived		
mice (wn)		ip 0.03	survived		
mice (nb)	SMB 7	ic 0.02	death		6.2

Section IX - Experimental Arthropod Infection and Transmission

Arthropod species & virus source(a)	Method of Infection log10/ml (b)		Incubation period (c)		Transmission 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)

Remarks

1. Travassos da Rosa, A.P.A., et al. 1984. Intervirology 21:38-49.
