Virus Name: Almeirim	Abbreviation: AMRV

Status
Possible Arbovirus

Select Agent
No

SALS Level
3

SALS Basis
Isufficient 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 389709

Accession Number

Original Date Submitted
9/26/1984

Family
Reoviridae

Genus
Orbivirus

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
Lutzomyia umbratilis, pool of 150 (1)

Species

Host Age/Stage
Adult

Sex
Female

Isolated From

Isolation Details

Signs and Symptoms of Illness

Arthropod
Depleted

Time Held Alive before Inoculation
3-4 hours

Collection Method
Aspiration from tree trunk

Collection Date
9/29/1980

Place Collected (Minimum of City, State, Country)
16 km northwest of Monte Dourado, Jari, Brzil

Latitude
0° 51' S

Longitude
52° 32' W

Macrohabitat
Tropical rain forest

Microhabitat
Ground level

Method of Storage until Inoculated
Liquid nitrogen and mechaniccal freeaer (-60dC)

Footnotes

Section III - Method of Isolation

Inoculation Date
12/4/1980

Animal (Details will be in Section 6)
nb mice

Route Inoculated
Intracerebral

Reisolation
No

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
2.6 dex

Control Titer
3.0 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

Hemaggiutination **No**	Antigen Source **SMB ext. by sucrose-acetone**	Erythrocytes (species used) **Goose**
pH Range **5.8-7.0**	pH Optimum	
Temperature Range **Room, 37dC**	Temperature Optimum	

Remarks

Serologic Methods Recommended
Cf, NT

Footnotes

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

BeAr 3899709 CF antigen did not react with a grouping fluid for the Phlebotomus fever group, nor with antibody for Inhangapi, Pacui and BeAr 371637 viruses. The antigen reacted with polyvalent no. 8 and showed a CF relationship to viruses of the Changuinola serogroup. The neutrilization relationship of Almeirim virus to viruses of the Changuinola serogroup is presented in the table below.

Neutralization Test (Newborn Mice , ic Route)

	Sera											
Virus	**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						
		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 1	6	4+			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. tsted Test used	Country and region
Lutzomyia umbratilis (females)	1/6, 753		km. 16 NW, Monte Dourado, Jari, Para, Brazil
Lutzomyia umbratilis (males)	0/9, 9,665		
Phlebotomines (female)	0/516		
Phlebotomines (male)	0/1,727		

Almeirim virus was not isolated from viscera of blood of the following animals captured in the Monte Dourado area in 1980: 21 Choloepus didactylus, 18 anteaters and 3 armadillos

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	Death	3.0	
mice (nb)		ip 0.02	Survived		
mice (nb)		sc			
mice (wn)		ic 0.03	Survived		
mice (wn)		ip 0.03	Survived		
mice (nb)	SMB 3	ic 0.02	Death		6.7

Section IX - Experimental Arthropod Infection and Transmission

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)
Para, Brazil

Suspected (Antibody only detected)

Section XIII - References

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

Remarks