Virus Name: Calchaqui	Abbreviation: CQIV

Status
Possible Arbovirus

Select Agent
No

SALS Level

SALS Basis

Other Information

Antigenic Group
Vesicular Stomatitis

SECTION I - Full Virus Name and Prototype Number

Prototype Strain Number / Designation
AG83-1347

Accession Number

Original Date Submitted
3/1/1986

Family

Genus
Vesiculovirus

Information From
C. Mitchell, C. Calisher, T. Monath, M. Sabatinni

Address
DVBVD, CDC, Ft. Collins, CO; Instituto de Virologia, Cordoba, Argentina

Information Footnote

Section II - Original Source

Isolated By (name)
C. Mitchell, T. Monath, M. Sabatinni

Isolated at Institute
Ft. Collins, CO (1)

Host Genus
Aedeomyia squamipennis, pool of 52

Species

Host Age/Stage
Adult

Sex
Female

Isolated From

Isolation Details

Signs and Symptoms of Illness

Arthropod
Depleted, Gravid

Time Held Alive before Inoculation
Nil

Collection Method
CDC light trap and CO2

Collection Date
12/20/1982

Place Collected (Minimum of City, State, Country)
Las Mercedes Ranch, 6km NE of Calchaqui, AR

Latitude
30° S

Longitude
60° W

Macrohabitat
Xerophytic zone

Microhabitat
Flooded low lying scrub forest, interspersed with pasture

Method of Storage until Inoculated
Dry ice and -80dC freezer

Footnotes

Section III - Method of Isolation

Inoculation Date
5/7/1986

Animal (Details will be in Section 6)
(Tissue Culture)

Route Inoculated

Reisolation
Not tried

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)	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 **No**	Antigen Source **SMB ext. by sucrose-acetone**	Erythrocytes (species used) **Goose**
pH Range **5.75 - 7.2**	pH Optimum	
Temperature Range	Temperature Optimum	

Remarks

Serologic Methods Recommended
IFA, NT, CF

Footnotes

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

Antibodies prepared against more than 75 individual arboviruses and polyvalent grouping fluids representing 19 arbovirus serogroups were employed in preliminary virus identification attempts; in all, these polyclonal hyperimmune ascitic fluids are reactive with more than 200 individual arboviruses and other viruses.
Initial complement-fixation tests were negative with all but the polyvalent grouping fluid prepared against Juona, Minatitlan, Gamboa, Alajuela, and Belem viruses. In a subsequent CF test with antibody to the individual viruses in this grouping fluid, AG83-1347 antigen reacted only with antibody to Jurona virus. When this antigen was tested by CF with antibody to the vesiculoviruses, Jurona, vesicular stomatitis Indianana, Cocal, Chandipura, Isfahan, Keuraliba, La Joya, Piry, and vesicular stomatitis New Jersey viruses, all but the antibody to Jurona virus reacted at 1:8 or less, with the Jurona antibody titering 1:32; homologous antibody titers were at least 256 and as high as >= 1024.
AG83-1347 antigen (infected Vero cells) was tested by IFA with all recognized vesiculoviruses [2] . Antibodies to Jurona and Yug Bogdanovac viruses were the only ones reacting. By NT, Jurona virus is distinct from strain AG83-1347.
Results of complement-fixation (CF), indirect flourescent antibody (IFA), and srum dilution-plaque reduction neutralization tests (NT) with strain AG83-1347 and Juroan virus [1] .

		TITER OF ANTIBODY TO :					
		CF		IFA		NT	
Virus	Strain	AG83-1347	JUR	AG83-1347	JUR	AG83-1347	JUR
Calchaqui	AG83-1347	256	32	20	80	40	<10
Jurona	BeAr40578	16	512	<10	1280	<10	>=10,240

Section VI - Biologic Characteristics

Virus Source (all VERTEBRATE isolates)

Lab Methods of Virus Recovery (ALL ISOLATIONS)
Vero cells

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)	Original material				11	<1mm	4 plaques	
Vero (CL)	Vero 1				6			

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
Ad squamipennis	1/123		Calchaqui, Santa Fe Prov., Argentina
Horses		17/46 NT	Santa Fe Prov., Argentina
Humans		0/20 NT	
Horses		3/85 NT	Rural Santa Fe Prov., Argentina
Horses		0/60 NT	Urban Santa Fe Prov., Argentina

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)	Vero 1	ic	2/8 dead	12-13	
"" (nb)	Vero 3	ip	8/8 dead	9	
"" (nb)		sc			
"" (wn)		ic			
"" (wn)		ip	5/15 dead		

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)
Argentina

Suspected (Antibody only detected)

Section XIII - References

1. Calisher, C.H. et.al. 1987. Am. J. Trop. Med. Hyg. 36:114-119.
2. Calisher, C.H., and Karabatsos, N., In: T.P. Monath (ed.) The Arboviruses: Biology and epidemiology, CRC Press, Inc. Boca Raton, FL. To be published.

Remarks