Virus Name: Radi		Abbreviation: RADIV
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
ISS Phl.166

Accession Number

Original Date Submitted
5/25/1989

Family
Not listed

Genus
Vesiculovirus

Information From
P. Verani et.al. (1)

Address
Istituto Superiore di Sanita, Viale Regina Elena, 299, I-0016 Rome, Italy

Information Footnote

Section II - Original Source

Isolated By (name)
P. Verani et.al. (1)

Isolated at Institute
Istituto Superiore di Sanita

Host Genus
Phlebotomus perfiliewi

Species

Host Age/Stage

Sex
Female

Isolated From

Isolation Details

Signs and Symptoms of Illness

Arthropod
Depleted

Time Held Alive before Inoculation

Collection Method
CDC light trap

Collection Date
7/13/1982

Place Collected (Minimum of City, State, Country)
Radi, Toscana, Central Italy

Latitude
43° 13' N

Longitude
11° 7' E

Macrohabitat
Cultivted hills (260 meters alt.)

Microhabitat
Poultry yard

Method of Storage until Inoculated
-70dC

Footnotes

Section III - Method of Isolation

Inoculation Date
9/27/1982

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

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)	After Treatment Titer	Control Titer

Other (formalin, radiation)

Virion Morphology

Shape
Bullet shaped

Dimensions
70 x 200 nm

Mean
nm

Range
nm

Measurement Method
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 **No**	Antigen Source **SMB ext by sucroce-acetone**	Erythrocytes (species used) **Goose**
pH Range **5.75-6.8**	pH Optimum	
Temperature Range **22dC-37dC**	Temperature Optimum	
Remarks		
Serologic Methods Recommended **CF, IFA**		
Footnotes		

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

ISS Ph1.116 antigen did not react in CF test with the following immune ascitic fluids to the following phleboviruses: Toscana, Arbia, Punta Toro, Karimabad, Candiru, Chagres, Otaporanga, Icoaraci and Phlebotomus fever group, nor with a VSV group immune ascitic fluid. ISS Ph1.116 antigen and MIAF reacted with antigen and MIAF prepared against Yug Bogdanovac virus as follows:

ANTIGEN	ASCITIC FLUID	
	ISS Ph1.116	YB
ISS Ph1.116	256/256 *	16/32
YB	8/8	64/64

* Antibody titer/antigen titer

In the laboratory of the Arbovirus Reference Branch, Division of Vector-Borne Infectious Diseases in Fort Collins, Colorado, ISS Ph1.116 was screened by indirect immunoflourescence tests with 89 rhabdoviruses and a weak one-way relationship was detected only with Yug Bogdanovac (antibody to Yug Bogdanovac reacted at 1:25 with ISS Ph1.116 infected cells; homologous titers being 400 and 1,600 for Yug Bogdanovac and ISS Ph1.116 respectively) [2] . The antigenic relationship by CF between the two viruses was as follows:

ANTIGEN	CF TITER OF ANTIBODY TO VIRUS	
	ISS Ph1.116	YB
ISS Ph1.116	>1024	8
YB	64	>1024

Section VI - Biologic Characteristics

Virus Source (all VERTEBRATE isolates)

Lab Methods of Virus Recovery (ALL ISOLATIONS)
Newborn mice and Vero cultures

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 4	2	4+	6.0 dex	7	*		
Vero (CL)	Vero 2	3	4+	6.1 dex				

* Faint plaques with incomplete destruction of cells.

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
Human		0/86 IFA	Siena Province, Toscana, Italy (1)
Phlebotomus perfiliewi	1/9,351		Siena Province, Toscana, Italy (1)

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 6	ic 0.01	Death	3	
"" (nb)		ip			
"" (nb)		sc			
"" (wn)		ic			
"" (wn)		ip			

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
Phlebotomus pernicious artificial "blood" meal	8.5		3-7	26			2.0 *		Vero cells (TCID 50)
Phlebotomus pernicious		8.5	3-10	26			1.9 **		

* Mean virus titer per insect for 23 positive female insects: 23 positives out of 28 tested (82%)

** Mean virus titer per insect for 34 positive female insects: 34 positives out of 42 tested (81%)

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)
Central Italy

Suspected (Antibody only detected)

Section XIII - References

1. Verani, P. et.al., unpublished data.
2. Calisher, C.H. et.al. 1989. Intervirology 30:241-257.

Remarks