

<b>Virus Name: Palyam</b>		<b>Abbreviation: PALV</b>
Status <b>Possible Arbovirus</b>	Select Agent <b>No</b>	SALS Level <b>2</b>
SALS Basis <b>Results of SALS surveys and information from the Catalogue.</b>		
Other Information		
Antigenic Group <b>Palyam</b>		

**SECTION I - Full Virus Name and Prototype Number**

Prototype Strain Number / Designation <b>IG5287</b>	Accession Number	Original Date Submitted <b>6/6/1984</b>
Family <b>Reoviridae</b>	Genus <b>Orbivirus</b>	
Information From <b>Nat. Inst. Virol., Pune</b>	Address <b>P.O. Box 11, Pune 411 001, India</b>	
Information Footnote <b>Revised</b>		

**Section II - Original Source**

Isolated By (name) <b>C.N. Dandawate (1)</b>	Isolated at Institute <b>Vellore, South India</b>	
Host Genus <b>Culex "vishnui"</b>	Species	Host Age/Stage <b>Adult</b>
Sex <b>Female</b>		
<u>Isolated From</u>	<u>Isolation Details</u>	
Signs and Symptoms of Illness	Arthropod	
Time Held Alive before Inoculation		
Collection Method <b>Aspiration of resting mosquitoes</b>	Collection Date <b>6/28/1956</b>	
Place Collected (Minimum of City, State, Country) <b>Sathuperi village, Tamil Nadu, India</b>		
Latitude <b>12° 54' N</b>	Longitude <b>79° 7' E</b>	
Macrohabitat <b>Plantation of sugarcane and banana</b>	Microhabitat <b>Dry shade of maturing crops</b>	Method of Storage until Inoculated <b>Alive in tube</b>
Footnotes		

**Section III - Method of Isolation**

Inoculation Date  
**6/29/1956**

Animal (Details will be in Section 6)  
**nb mice**

Route Inoculated  
**ic and sc**

Reisolation  
**Not tried**

Other Reasons  
**This strain is totally different from the viruses handled at the VRC.**

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)	

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**Stability of Infectivity (effects)**

pH (infective range)  
**Labile at pH 3.0 (5)**

Lipid Solvent (ether - % used to test)	After Treatment Titer <b>2.5 dex</b>	Control Titer <b>4 dex</b>
Lipid Solvent (chloroform)	After Treatment Titer <b>3.6 dex</b>	Control Titer <b>3.6 dex</b>
Lipid Solvent (deoxycholate) 1:200	After Treatment Titer <b>2.5 dex</b>	Control Titer <b>3.6 dex</b>

Other (formalin, radiation)  
**Relatively resistant to lipid solvents and deoxycholate (5).**

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**Virion Morphology**

Shape <b>Spherical</b>	Dimensions <b>65-70 nm</b>	
Mean nm	Range nm	
Measurement Method <b>Electron microscopy (6)</b>	Surface Projections/Envelope <b>No (6)</b>	Nucleocapsid Dimensions, Symmetry

**Morphogenesis**

Site of Constituent Formation in Cell	Site of Virion Assembly	Site of Virion Accumulation
Inclusion Bodies	Other	

**Hemagglutination**

Hemagglutination <b>No</b>	Antigen Source <b>SMB ext.by sucrose-acetone; acetone-ether; sucrose-acetone + prot.</b>	Erythrocytes (species used) <b>Goose</b>
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pH Range <b>5.7-7.6</b>	pH Optimum
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Temperature Range <b>27dC</b>	Temperature Optimum
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Remarks

Serologic Methods Recommended  
**CF, NT**

Footnotes

By CF, Palyam virus antigen did not react with (homologous titer in parenthesis) hyperimmune sera against Sindbis (256), chikungunya (256), Japanese encephalitis (512), West Nile (256), dengue 2 (256), Kyasanur Forest disease (256), Venkatapuram (128), Ganjam (256), Umbre (>64), Sathuperi (16), Minnal (32), Kaisodi (64), Arkonam (128), Wanowrie (128), Wad Medani (256), Bhanja (256), Batai (256), bluetongue (128), AHS (>64), HEV (256), Chandipura (>64), Balagodu (>64). CF tests carried out by Dr. R.E. Shope at YARU indicated that there was no reaction with immune ascitic fluids against Colorado tick fever, Eubenangee, Corripata, Kemerovo, Chenuda, Wad Medani, Tribec, Lebombo, EHD and Changuinola. Related by CF to Kasba (IG15534) and Vellore (68886) [4] viruses but distinct by neutralization test.

Antigenic relationship among Palyam, Kasba and Vellore viruses [3].

	Immune Sera					
	Palyam		Kasba		Vellore	
Antigen or Virus	CF	NT	CF	NT	CF	NT
Palyam	256/64 *	>2.7 **	256/32	0.9	128/64	0.6
Kasba	128/16	1.4	256/64	>4.0	128/64	1.2
Vellore	128/16	0.7	128/32	1.0	128/64	>2.7

\* Serum titre/antigen titre

\*\* Log neutralization index in dex

Petevo virus, a new recently described arbovirus, was shown to be antigenically related to, but distinct from Palyam virus and other serogroup members [9].

**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 +/- (g)
		Day (c)	Extent (d)	Titer TCD50/ml (e)	Day (c)	Size (f)	Titer PFU/ml (e)	
Monkey kidney (PC)			No CPE					- (2)
Chick embryo (PC)			No CPE					- (2)
Rat embryo (PC)			No CPE					- (2)
Vero (CL)			CPE (2)					
Vero (CL)						Plaques (7)		
Aedes albopictus (CL)			No CPE					+ (2)

**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
Culex "vishnui"	1/5,553 pools (738,291 mosquitoes)		Tamil Nadu and Andhra Pradesh States, India

**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 log <sub>10</sub> /ml
Mice (nb)	P-6	ic 0.02	Sickness and death		6.6
Mice (nb)		ip 0.03	No illness or death		
Mice (nb)		sc			
Mice (wn)		ic 0.03	No illness or death		
Mice (wn)		ip 0.2	No illness or death		
guinea pig (ad)	P-10	ip 0.5	No viremia; CF or NT antibodies not detected		
chick embryo (7 day)		ys 0.1	Not lethal		

**Section IX - Experimental Arthropod Infection and Transmission**

Arthropod species & virus source(a)	Method of Infection log <sub>10</sub> /ml (b)		Incubation period (c)		Transmission by bite (d)		Assay of arthropod, log <sub>10</sub> /ml (e)		
	Feeding	Injected	Days	°C	Host	Ratio	Whole	Organ	System
Aedes albopictus		Adult mosquitoes inoculated; multiplication detected on 6-15th days; titer ranged from 0.2 to 2.5/0.02 ml(8).							

**Section X - Histopathology**

Character of lesions (specify host)		
<u>Inclusion Bodies</u>	<u>Intranuclear</u>	
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) <b>India</b>
Suspected (Antibody only detected)

**Section XIII - References**

1. Dandawate, C.N., et al. 1969. Ind. J. Med. Res. 57:1420-1426.
2. Dandawate, C.N. and Pavri, K.M. 1974. Ind. J. Med. Res. 62:317-325.
3. Dandawate, C.N. 1974. Ind. J. Med. Res. 62:326-331.
4. Myers, R.M., et al. 1971. Ind. J. Med. Res. 59:1209-1213.
5. Borden, E.C., et al. 1971. J. Gen. Virol. 13:261-272.
6. Murphy, F.A., et al. 1971. J. Gen. Virol. 13:273-288.
7. Stim, T.B. 1969. J. Gen. Virol. 5:329-338.
8. Virus Res. Centre, Poona, India. 1970. Unpublished data.
9. Saluzzo, J.F., et al. 1982. Ann. Virol. (Paris) 133:215-222.

**Remarks**

**Another virus, B8112, from Australia, has been found to be related to these viruses by CF test; neutralization test indicated that the virus B8112 was related but not identical to Vellore virus (information from Dr. Shope).**