Virus Name: Puchong		Abbreviation: PUCV
Status **Possible Arbovirus**	Select Agent **No**	SALS Level **2**

SALS Basis
Results of SALS surveys and information from the Catalogue.

Other Information

Antigenic Group
Malakal

SECTION I - Full Virus Name and Prototype Number

Prototype Strain Number / Designation	Accession Number	Original Date Submitted
P5-350		8/16/1984

Family	Genus
Not listed	**Not listed**

Information From	Address
Albert Rudnick	**Hooper Foundation, University of California, San Francisco, CA, 94143**

Information Footnote
Reviewed by editor

Section II - Original Source

Isolated By (name)	Isolated at Institute	
Arbovirus Res. Unit, UC ICMR	**Kuala Lumpur, Malaysia (1)**	
Host Genus **Mansonia uniformis, pool of 67 mosquitoes**	Species	Host Age/Stage **Adult**

Sex
Female

Isolated From	Isolation Details
Signs and Symptoms of Illness	Arthropod

Time Held Alive before Inoculation

Collection Method	Collection Date
Mechanical aspirator	**12/15/1965**

Place Collected (Minimum of City, State, Country)
Puchong, Selangor State, Malaysia

Latitude	Longitude
3° 2' N	**101° 37' E**

Macrohabitat	Microhabitat	Method of Storage until Inoculated
Carabao shed	**On walls of shed and on surrounding vegetation**	**Revco cabinet at -70dC**

Footnotes

Section III - Method of Isolation

Inoculation Date
12/23/1965

Animal (Details will be in Section 6)
nb mice

Route Inoculated
ic and ip

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) **1:1000**	After Treatment Titer **3.9 dex**	Control Titer **5.0 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	pH Optimum	
Temperature Range	Temperature Optimum	

Remarks

Serologic Methods Recommended
CF, NT

Footnotes

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

Puchong (P5-350) antigen showed no relationship by CF and/or NT when tested against hyperimmune mouse sera for the following: BEB, MAY, ONN, RR, SF, SIN, WEE in group A; DEN-1, DEN-2, DEN-4, ILH, JBE, LGT, MVE, NTA, SLE, SPO, TMU, UGS, WN, YF, ZIKA in group B; BAT, BUN, WYO in the BUN group; CAR, MTB, ORI in group C; SAT in the SIM group; CAL; ANA; ANB; TUR, UMB in the TUR group; BAK, KET in the BAK group; CHP in the VSV group; GAN; LJN in the KSO group; QRF; CNU and Seletar in the KEM group; BHA, MIN, NYM, WAN; as well as EMC and Theiler's.
CF tests at YARU employing polyvalent immune reagents to a wide range of viruses showed no relationship except to SudAr-1169, an ungrouped virus isolated from Mansonia uniformis mosquitoes in the Sudan in 1964 [1] , [2] .
Results of NT tests in Vero cell cultures showed that the two viruses are readily distinguishable [3] .

Mouse sera	Virus	
	Puchong (P5-350) (TCD50 = 4.5 dex)	SudAr 1169 (TCD50 = >6.0 dex)
P5-350	> 2.5 *	0
SudAr 1169	0	> 4.0
Normal mouse	0	0

* 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 7		CPE	5.5**					

** 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
Mansonia uniformis	1/many		Puchong, Selangor State, Malaysia

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	Illness and death	3	9.4
Mice (nb)		ip			
Mice (nb)		sc			
Mice (wn)		ic 0.03	Illness and death	5	8.4
Mice (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

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)
Peninsular Malaysia

Suspected (Antibody only detected)

Section XIII - References

1. Casals, J. Personal communication. 1970.
2. Rudnick, A., et al. Unpublished. 1971.
3. Rudnick, A., et al. Unpublished. 1972.
4. Director, YARU. Personal communication. 1972.

Remarks