

Virus Name: Shuni		Abbreviation: SHUV
Status Possible Arbovirus	Select Agent No	SALS Level 2
SALS Basis Results of SALS surveys and information from the Catalogue.		
Other Information		
Antigenic Group Simbu		

SECTION I - Full Virus Name and Prototype Number

Prototype Strain Number / Designation An10107	Accession Number	Original Date Submitted 10/25/1984
Family Bunyaviridae	Genus Bunyavirus	
Information From O.R. Causey (1)	Address University of Ibadan, Ibadan, Nigeria	
Information Footnote Reviewed by editor		

Section II - Original Source

Isolated By (name) Ibadan Virus Laboratory	Isolated at Institute University of Ibadan, Nigeria	
Host Genus Cattle	Species	Host Age/Stage Adult
Sex Not Answered		
<u>Isolated From</u>	<u>Isolation Details</u>	
Serum/Plasma		
Signs and Symptoms of Illness	Arthropod	
Time Held Alive before Inoculation		
Collection Method At slaughter	Collection Date 5/12/1966	
Place Collected (Minimum of City, State, Country) Sokoto, Nigeria		
Latitude 13° N	Longitude 5° E	
Macrohabitat	Microhabitat	Method of Storage until Inoculated Liquid nitrogen
Footnotes		

Section III - Method of Isolation

Inoculation Date
6/1/1966

Animal (Details will be in Section 6)
nb mice

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) 1:100	After Treatment Titer 3.1 dex	Control Titer 7.4 dex
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

Hemagglutination

Antigen Source

Erythrocytes (species used)

Yes**SMB ext. by sucrose-acetone plus
sonication****Goose**

pH Range

pH Optimum

5.8-6.0**5.8**

Temperature Range

Temperature Optimum

Room temperature

Remarks

Serologic Methods Recommended

CF, NT

Footnotes

Log Neutralizing Index * for Seven Simbu Types with Homologous and Heterologous Immune Mouse Ascitic Fluids

Mouse Ascitic Fluid	Antigen						
	Sango An5077	Shamonda An5550	Sabo An9398	Shuni An10107	Sathuperi	Yaba 7	Ingwavuma
Sango	> 4.0	1.4	1.1	0	0	0	0
Shamonda	0	4.5	0	0	<1.2	<1.8	0
Sabo	0	1.4	> 4.8	0	0	0	0
Shuni	0	0	0	> 3.6	0	0	0
Sathuperi	0.2	<1.2	<1.2	<1.5	4.4	0.3	0
Yaba 7	0.6	0	<1.9	<1.9	0	3.6	0
Ingwavuma							3.1

* Expressed in dex

Cross-reacts in CF test with immune mouse ascitic fluid for Akabane [2] .

Significant cross-reactions by CF test with Sabo, Sango, Shamonda, and Sathuperi, but not Ingwavuma. Shuni and Sango closely related by immunodiffusion test [3] .

Two independent studies have shown that Shuni virus was closely related to Simbu group viruses SAT, KAI [5] , [6] and additionally Aino virus [6] .

Section VI - Biologic Characteristics

Virus Source (all VERTEBRATE isolates)
Blood (LV)

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)			
Mouse embryo cells (PC)			CPE (2)							
BHK-21 (CL)			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
Human	1/5,820	0/18 NT	Ibadan, Nigeria
Cattle	3/2,199	25/28 NT	
Sheep	1/323	23/72 NT	
Goat	0/320		
Swine	0/131		
Dog and cat	0/71		
Horse	0/26		
Camel	0/3		
Insectivora	0/336		
Chiroptera	0/828		
Primate	0/64		

Lepus	0/6		
Rodentia	0/3,084		
Carnivora	0/7		
Aves	0/319		
Reptile	0/56		
Amphibia	0/3		
Mosquito pools	0/420		
Culicoides pools	2/462		
Ixodidae pools	0/4,435		
Culex theileri	2		South Africa (4)

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)		ic 0.02	Death	2	8.7
Mice (nb)		ip 0.02	Death	2	
Mice (nb)		sc			
Mice (wn)		ic			
Mice (wn)		ip 0.03	Antibodies		

Arthropod species & virus source(a)	Method of Infection log10/ml (b)		Incubation period (c)		Transmission 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 BodiesIntranuclear

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)

Nigeria, South Africa

Suspected (Antibody only detected)

Section XIII - References

1. Causey, O.R., et al. 1972. Ann. Trop. Med. Parasitol. 66:357-362.
2. Moore, D.L. Personal communication. Mar. 1971.
3. David-West, T.S. 1972. Indian J. Med. Res. 60:191-199.
4. Director, S. Afr. Inst. Med. Res. Personal communication. 1972.
5. Rodrigues, F.M. et al. 1977. Ind. J. Med. Res. 66:719-725.
6. Kinney, R.M. and Calisher, C.H. 1981. Am. J. Trop. Med. Hyg. 30:1307-1318.

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