

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

SECTION I - Full Virus Name and Prototype Number

Prototype Strain Number / Designation BT 5012	Accession Number	Original Date Submitted 12/20/1984
Family Bunyaviridae	Genus Bunyavirus	
Information From Sunthorn Srihongse	Address Gorgas Memorial Laboratory, P.O. Box 2016, Balboa Heights, Canal Zone	
Information Footnote Reviewed by editor		

Section II - Original Source

Isolated By (name) Margaret A. Grayson (1)	Isolated at Institute Gorgas Memorial Laboratory, Panama	
Host Genus Sigmodon hispidus	Species	Host Age/Stage Adult
Sex Male		
<u>Isolated From</u> Serum/Plasma	<u>Isolation Details</u>	
Signs and Symptoms of Illness Presumably healthy animal	Arthropod	
Time Held Alive before Inoculation		
Collection Method Baited live trap, heart blood taken by syringe	Collection Date 6/23/1961	
Place Collected (Minimum of City, State, Country) Two miles north of Almirante, Panama		
Latitude 10° N	Longitude 80° W	
Macrohabitat Tropical rain forest (edge)	Microhabitat Edge of fresh-water marsh	Method of Storage until Inoculated Thermos (wet ice) for transportation, Revco at -65dC later
Footnotes		

Section III - Method of Isolation

Inoculation Date
9/20/1961

Animal (Details will be in Section 6)
nb mice

Route Inoculated ic and ip	Reisolation Yes
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Other Reasons
No other isolations of this virus have been made before.

Homologous Antibody Formation by Source Animal
Not tested

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) 1:2	After Treatment Titer <2.0 dex	Control Titer 5.7 dex
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

Hemagglutination

Antigen Source

Erythrocytes (species used)

Yes

SM serum ext. by acetone

Goose

pH Range

pH Optimum

5.75-6.0

Temperature Range

Temperature Optimum

4dC - 37dC

22dC

Remarks

Serologic Methods Recommended

CF, HI, NT

Footnotes

Immune Sera	Antigen of Registered Virus				
	HI		CF		NT
	Ht/Ho	Ratio	Ht/Ho	Ratio	Ht/Ho
Patois	80/2560	1/32	128/64	1/1	2.3/>3.6
Gr. C hyperimmune ascitic fluid * (does not include Patois and Zegla)	20				

* Kindly supplied by Dr. Robert E. Shope

Antigens	Immune Serum of Registered Virus				
	HI		CF		NT
	Ht/Ho	Ratio	Ht/Ho	Ratio	Ht/Ho
Patois	20/640	1/32	32/128	1/4	2.2/>3.5

CF: Crude brain or liver antigens did not fix complement in the presence of mouse hyperimmune sera prepared with the following agents: VEE, EEE, WEE, Pixuna, Mayaro, Aura, Una, Guama, Guaroa, Wyeomyia, Kairi, Cache Valley and California.

HI: Acetone extracted serum antigen was not inhibited by hyperimmune sera or ascitic fluid prepared with the following agents: VEE, EEE, Pixuna, Mayaro, Aura, Ilheus, SLE, YF, Bussuquara, DEN-2, Cache Valley, Guaroa, Wyeomyia, Maguari, Kairi, California, Capim, Guajara, Oropouche, Turlock, Bwamba, Anopheles A and B, Tacaribe, Changuinola, Cocal, VS-Indiana, Sicilian sandfly fever, Icoaraci, and Chagres.

NT: LNI in dex

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)	
Hamster kidney (PC)	SMB 4	6	CPE	5.0 **				
Vero (CL)		6	CPE	5.0				
LLC-MK2 (CL)	SMB 5				6	2 mm	8.0** (5)	
Vero (CL)						No plaques (5)		

** Expressed in dex

Vertebrate (species and organ) and arthropod	No. isolations/No. tested	No. with antibody/No. tested Test used	Country and region
Man	0/398		Republic of Panama
Man		5/256 HI	Almirante, Panama
Sigmodon hispidus (cotton rat)	3/488	67/280 HI	
Proechimys semispinosus (spiny rat)	0/138	10/77 HI	
Birds	0/1,244		
Reptiles	0/331		
Other wild vertebrates	0/52		
Sentinel mouse litters	3/647		
Arthropods	0/377,442		
Sigmodon hispidus	1		Honduras (4)
Sentinel mice	4		Mexico (4)
Sentinel hamsters	16		Mexico; Honduras; Belize; Guatemala(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)	SMB 4	ic 0.02	Illness and death	2	7.4
Mice (nb)		ip 0.02	Illness and death	2	7.0
Mice (nb)		sc			
Mice (wn)		ic 0.02	Irregular death		
Mice (wn)		ip 0.1	Antibody formation		

Section IX - Experimental Arthropod Infection and Transmission

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
Ae aegypti	Adult mosquitoes exposed to virus by feeding subsequently transmitted to mice and monkeys (16); serial passage successful in mosquitoes inoculated by the intrahaemocoelic route (18).								
An quadrimaculatus, Culex quinquefasciatus	Serial passage successful in mosquitoes inoculated by the intrahaemocoelic route (18).								

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)
Republic of Panama; Mexico; Honduras; Belize;Guatemala
Suspected (Antibody only detected)

Section XIII - References

1. Srihongse, S., et al. 1966. Am. J. Trop. Med. Hyg. 15:379-384. 2. Galindo, P., et al. 1966. Am. J. Trop. Med. Hyg. 15:385-400. 3. Srihongse, S. and Shope, R.E. 1968. Acta Virol. 12:453-456. 4. Scherer, W.F, et al. 1972. Am. J. Trop. Med. Hyg. 21:194-200. 5. Stim, T.B. 1969. J. Gen. Virol. 5:329-338.

Remarks

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