

Virus Name: Madrid		Abbreviation: MADV
Status Arbovirus	Select Agent No	SALS Level 2
SALS Basis Results of SALS surveys and information from the Catalogue.		
Other Information		
Antigenic Group C		

SECTION I - Full Virus Name and Prototype Number

Prototype Strain Number / Designation BT 4075	Accession Number	Original Date Submitted 12/12/1984
Family Bunyaviridae	Genus Bunyavirus	
Information From U. Panama, Belem Virus Lab., Gorgas Lab.	Address Panama, R.P.	
Information Footnote Reviewed by editor		

Section II - Original Source

Isolated By (name) Rodaniche and Galindo (1)	Isolated at Institute Gorgas Memorial Laboratory	
Host Genus Man (Homo sapiens)	Species	Host Age/Stage 36 years
Sex Male		
	<u>Isolated From</u>	<u>Isolation Details</u>
Signs and Symptoms of Illness Fever, chills, headache, prostration, pain in right upper quadrant	Arthropod	
Time Held Alive before Inoculation		
Collection Method	Collection Date 3/3/1961	
Place Collected (Minimum of City, State, Country) Almirante, Bocas del Toro Province, Panama		
Latitude 10° N	Longitude 80° W	
Macrohabitat Tropical rain forest	Microhabitat	Method of Storage until Inoculated On ice in thermos jar during transit
Footnotes		

Section III - Method of Isolation

Inoculation Date
3/5/1961

Animal (Details will be in Section 6)
nb mice

Route Inoculated ic and ip	Reisolation Yes
--------------------------------------	---------------------------

Other Reasons

Homologous Antibody Formation by Source Animal
Yes

Test(s) Used
CF, NT

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	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**

pH Range

pH Optimum

Temperature Range

Temperature Optimum

Remarks

Serologic Methods Recommended

HI and CF

Footnotes

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

By HI and CF is related to, but can be differentiated from other members of Group C [1].

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)	
Vero (CL)	SM 8				6	4 mm	6.5** (3)	
Vero (CL)			CPE					
LLC-MK2 (CL)					7	2 mm	6.0 (3)	
BHK-21 (CL)	P-Unk.	3	4+	6.5** (7)				
** Expressed in dex								

Vertebrate (species and organ) and arthropod	No. isolations/No. tested	No. with antibody/No. tested Test used	Country and region
Man	1		Almirante, Bocas del Toro Province, Panama (1)
Sentinel mice	2		Almirante, Bocas del Toro Province, Panama (2)
Culex vomerifer	4 *		
Sentinel hamster	4		Almirante, Bocas del Toro Province, Panama (4)
Man		3/96 HI	Almirante, Panama (5)
Proechimys semispinosus	1		Eastern Panama (6)
Sentinel hamsters	2		Almirante, Panama (8)

* Naturally infected, wild-caught *Culex vomerifer* transmitted Madrid virus to hamsters exposed to mosquito bites under controlled conditions on five occasions (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)	P-24	ic 0.02	Coma, death	2.9	5.6(brain)
Mice (nb)		ip 0.05	Coma, death	3.4	
Mice (nb)		sc			
Mice (wn)		ic 0.03	Variable		8.0(serum)
Mice (wn)		ip			
hamster (ad)	P-1	ic 0.03	Coma, death	3	

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

Section X - Histopathology

Character of lesions (specify host)

Inclusion Bodies

Intranuclear

Organs/Tissues Affected

Category of tropism

Section XI - Human Disease

In Nature Reported	Residual	Death
Subclinical	Overt Disease	
Clinical Manifestations Fever (R), headache (R), prostration (R), pain in right upper quadrant		
Number of Cases One	Category (i.e. febrile illness, etc.) Febrile illness	

Section XII - Geographic Distribution

Known (Virus detected) Republic of Panama
Suspected (Antibody only detected)

Section XIII - References

<ol style="list-style-type: none">1. Rodaniche, E. de, et al. 1964. Am. J. Trop. Med. Hyg. 13:839-843.2. Srihongse, S., et al. 1966. Am. J. Trop. Med. Hyg. 15:379-384.3. Stim, T.B. 1969. J. Gen. Virol. 5:329-338.4. Galindo, P. and Srihongse, S. 1967. Am. J. Trop. Med. Hyg. 16:525-530.5. Director, Gorgas Memorial Lab. Personal communication. 1968.6. Director, Gorgas Memorial Lab. Personal communication. 1971.7. Karabatsos, N. and Buckley, S.M. 1967. Am. J. Trop. Med. Hyg. 16:99-105.8. Srihongse, S., et al. 1967. Am. J. Trop. Med. Hyg. 16:519-524.
--

Remarks
