

Virus Name: Arbia		Abbreviation: ARBV
Status Probable Arbovirus	Select Agent No	SALS Level 3
SALS Basis Insufficient experience with virus; i.e., experience factor from SALS surveys was less than 500 in laboratory facilities with low biocontainment.		
Other Information		
Antigenic Group Phlebotomus Fever		

SECTION I - Full Virus Name and Prototype Number

Prototype Strain Number / Designation ISS.Phl.18	Accession Number	Original Date Submitted 5/1/1985
Family Bunyaviridae	Genus Phlebovirus	
Information From P. Verani, et. al.	Address Istituto Superiore di Sanita, Viale Regina Elena 299, I-00161 Rome, Italy	
Information Footnote Reviewed by editor		

Section II - Original Source

Isolated By (name) P. Verani, et. al. (1,6)	Isolated at Institute Istituto Superiore di Sanita	
Host Genus Phlebotomus perniciosus	Species	Host Age/Stage
Sex Female		
<u>Isolated From</u>	<u>Isolation Details</u>	
Signs and Symptoms of Illness	Arthropod Engorged	
Time Held Alive before Inoculation A few hours		
Collection Method Caught by hand	Collection Date 7/25/1980	
Place Collected (Minimum of City, State, Country) Sesto Fiorentino, Toscana, Italy		
Latitude 43° 50' N	Longitude 11° 10' E	
Macrohabitat Hills covered by deciduous woods (250 meters alt.)	Microhabitat Poultry yard	Method of Storage until Inoculated -70dC
Footnotes		

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** **Goose**

pH Range pH Optimum
5.75-6.2 **6.0**

Temperature Range Temperature Optimum
22dC-37dC **37dC**

Remarks
HA production is difficult, usually of poor titre

Serologic Methods Recommended
CF, NT, IFA

Footnotes
HA production is difficult, usually of poor titre

ISS.Phl.18 antigen and MIAF did not react in CF test with antigens and MIAF prepared against Toscana , SFN, and SFS viruses.

At YARU [2] ; ISS.Phl.18 was screened by indirect fluorescent antibody test against the following MIAF: Phlebotomus fever group, Toscana , SFN, Arumowot, Gordil, Saint Floris, SFS, Rift Valley Fever , Karimabad, Salehabad, Gabek Forest, VSV group, Isfahan , Chandipura , and Jug Bogdanovac. Positive reactions were obtained with Toscana , SFN, Gordil, Saint Floris, Salehabad, Gabek Forest, and the Phlebotomus fever group MIAF. ISS.Phl.18 antigen and MIAF were then tested by CF against Salehabad, Gabek Forest, Gordil, Toscana , SFN, Saint Floris antigens, and MIAF. Positive reactions were obtained between ISS.Phl.18, Salehabad, and Gabek Forest.

ANTIGEN	MIAF		
	ISS.Phl.18	Salehabad	Gabek Forest
ISS.Phl.18	256/> 256 ^a	128/>64	<4/<4
Salehabad	64/>128	256/> 128	<4/<4
Gabek Forest	16/4	<4/<4	>256/> 128

^a Serum titer/antigen titer.

Cross NT tests (plaque reduction method) between ISS.Phl.18 and Salehabad viruses and MIAF gave the following results:

VIRUS	MIAF	
	ISS.Phl.18	Salehabad
ISS.Phl.18	160 ^b	<10
Salehabad	<10	320

^b Dilution producing >90% plaque reduction.

Virus Source (all VERTEBRATE isolates)

Lab Methods of Virus Recovery (ALL ISOLATIONS)
Newborn mice and Vero cell cultures

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)	SMB 4	3	4+	6.4 ^c	5	pinpoint	7.6 ^c	
Vero (CL)	Vero 3	3	4+		5	pinpoint	5.9	

^c Expressed in dex

Vertebrate (species and organ) and arthropod	No. isolations/No. tested	No. with antibody/No. tested Test used	Country and region
Man		0/105 HI	Toscana, Italy
Chicken		0/65 HI	
Rabbit		0/2 HI	
Phlebotomus perniciosus	3/609		Florence province, Toscana,Italy(1,6)
Phlebotomus perniciosus(males)	1		
Phlebotomus perfiliewi	23/9,351		Siena province,Toscana, Italy (3)
Phlebotomus perfiliewi (males)	3		
Phlebotomus perfiliewi	2/882		Teramo province, Abruzzo, Italy

Experimental host and age	Passage history and strain	Inoculation Route-Dose	Evidence of infection	AST (days)	Titer log ₁₀ /ml
Mice (nb)	SMB5	ic 0.01	Death	4	8.24
Mice (nb)		ip			
Mice (nb)		sc			
Mice (wn)	SMB 6	ic 0.03	Death	6	
Mice (wn)	SMB 4	ip 0.05	Antibodies		
rabbit		ic 0.20	Antibodies		
rabbit		ip 1.00	Antibodies		

Section XII - Geographic Distribution

Known (Virus detected)

Central Italy

Suspected (Antibody only detected)

Section XIII - References

1. Verani, P. et al. 1982. Unpublished data.
2. Tesh, R.B. Personal communication. 1983.
3. Verani, P. et al. 1983. Unpublished data.
4. Ciufolini, M.G., et al. 1985. Am. J. Trop. Med. Hyg. 34:174-179.
5. Tesh, R.B. and Modi, G.B. 1984. Am. J. Trop. Med. Hyg. 33:1007-1016.
6. Verani, P., et al. 1988. Am. J. Trop. Med. Hyg. 38:433-439.

Remarks