

Virus Name: Karshi

Abbreviation: KSIV

Status: Possible Arbovirus

Select Agent:

SALS Level: 2

SALS Basis: S

Antigenic Group: B

HEPA Filtration:

Taxonomic status: Flavivirus

Other Information: None.

Section I - Full Virus Name and Prototype Number

Full Virus Name:

Karshi

Information from: D.K. Lvov

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Address: Inst. of Virology, USSR Academy of Medical Science, Gamaleya Str. 16, Moscow, USSR

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Reviewed by editor

Section II - Original Source

Isolated by: D.K. Lvov and co-workers at: Moscow, USSR

Genus and species: Ornithodoros papillipes Sentinel X

Age/Stage: Adult Sex:

Isolated From	Isolation detail
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Signs and symptoms of illness:

Arthropod engorged depleted gravid

Time held alive before inoculation:

Collection date: 6/9/1972 Method: Collected by hand

Place collected: Karshi desert, Uzbekistan, USSR

Latitude: 38° 53' " N Longitude: 65° 36' " E

Macrohabitat:

Microhabitat: Burrow of Rhombomys opimus Licht. (Great Gerbil)

Method of storage until inoculated: Alive in refrigerator at 4dC

Footnotes:

Section III - Method of Isolation and Validity

Inoculation Date: 10/16/1972

Animal: nb mice Embryonated egg: Tissue Culture:

(Details in Section VI - Biologic Char.)

Route inoculated: Intracerebral Reisolation: Yes

Other reasons:

Homologous antibody formation by source animal (See Section II):

Test used: HI CF NT

Other:

Footnotes:

Section IV - Virus Properties

Physicochemical:

RNA: DNA: Single Strand: Double Strand:
Pieces: Infectivity: Sedimentation coefficient(s): /strong>
Percentage wt. of virion protein , lipid carbohydrate
Virion polypeptides:
Number: Details:
Non-virion polypeptides:
Number: Details:
Virion density: Sedimentation coefficient:
Nucleocapsid density Sedimentation coefficient:

Stability of infectivity (effects) pH

Lipid solvent:
(ether) After treatment titer Control titer
(chloroform) After treatment titer Control titer
Detergent:
(deoxycholate) After treatment titer Control titer
Other (formalin, radiation):

Virion morphology:

Shape Dimensions
Mean (nm) range (nm) how measured
Surface projections, envelope
Nucleocapsid dimensions, symmetry

Morphogenesis:

Site of constituent formation in cell
Site of virion assembly
Inclusion bodies
Other

Hemagglutination:

Hemagglutination Yes Antigen source SMB ext. by sucrose-acetone
Erthrocytes Goose pH range 6.0-7.0 pH optimum 6.2
Temperature optimum range 4dC, 22dC
Remarks
Serologic methods recommended CF, NT
Footnotes:

Section V - Antigenic Relationship And Lack of Relationship To Other Viruses

MIAF	ANTIGENS		VIRUS							
	CF		NT - cell culture							
	2247-US	WN	2247-US	TBE	WN	POW	LI	KFD	LGT	Kadam
B group	16									
TBE	32/128 ^a		0	1.7						
JE	16/256									
WN	64/128	128	4.6 ^b		2.0					
SOKOLUK	<8/128									
POWASSAN	32/128		1.5			3.8				
LOUPING ILL	8/128		0				2.7			
KFD	32/128		0.2					1.4		
LANGAT	16/64		0						1.4	
TYULENIY	16/256									
2247-US	256	<8/256	4.7	0.8	0.2	0.3	0	0.1	1.0	0
Kadam			0							1.5

^a Ho serum CF titer/Ht serum CF titer

^b LNI in dex; blank = not tested

NT-suckling mice				Precipitation test			
Sera	Virus		Sera	Antigen			2247-US
	WN	2247-US		WN (African)	WN (Indian)		
WN	5.8 ^c	4.8	WN(African)	+	+	-	
2247-US	1.6	5.5	WN(Indian)	+	+	-	+
			2247-US	-	-		

^c LNI in dex

Section VI - Biologic Characteristics

Virus source (all VERTEBRATE isolates):

Lab Methods of Virus Recovery (ALL ISOLATIONS): Newborn mice

Susceptibility of Cell Culture Systems:

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)
Vero (CL)				5	Plaques	6.9 (d)(4)	
LLC-MK2 (CL)				5	Plaques	6.3(4)	
PS (CL)				6	Plaques	7.8(4)	
Duck embryo (PC)					No plaques (4)		

(d) Expressed in dex

Section VII - Natural Host Range

Vertebrate (species and organ) and arthropod	No. isolations/No. tested	No. with antibody/No. tested Test used	Country and region
Ornithodoros papillipes	3		Karshi, Uzbekistan USSR

Section VIII - Susceptibility To Experimental Infection (Record Viremia)

Experimental host and age	Passage history and strain	Inoculation Route- Dose	Evidence of infection	AST (days)	Titer log10/ml
Mice (nb)	SMB 2	ic	Death	5	6.0
Mice (nb)		ip			
Mice (nb)		sc			
Mice (wn)	SMB 4	ic	Death	5	8.0
Mice (wn)		ip			

Section IX - Experimental Arthropod Infection And Transmission

Arthropod species & virus source(a)	Method of Infection log10/ml (b)		Incubation period (c) Days	Transmision by bite (d)		Assay of arthropod, log10/ml (e)		
	Feeding	Injected		°C	Host	Ratio	Whole	Organ

Section X - Histopathology

Character of lesions:

Inclusion bodies:

Cytoplasmic:(M) (LV) Intranuclear: (M) (LV)

Organs-tissues affected:

Category of tropism:

Section XI - Human Disease

Human disease:	In nature:	(S) (R)
	Death:	(S) (R)
	Residua:	(S) (R)
Laboratory infections:	Subclinical:	(S) (R)
	Overt Disease:	(S) (R)

Clinical manifestations:

Category: No. of cases:

Section XII - Geographic Distribution

Known (virus):

Uzbekistan; Kazakhstan, USSR

Section XIII - References

1. Sidorova, G.A., et al. 1973. Ecology of Viruses, v. 1, Moscow. p. 87-90.
2. Lvov, D.K., et al. 1976. Arch Virol. 50:29-36.
3. Chumakov, M.P. Unpublished data. 1977-78.
4. Calisher, C.H., et al. Personal communication. 1983.

Section XIV - Remarks