

Virus Name: Kyzylagach		Abbreviation: KYZV
Status Possible 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 A		

SECTION I - Full Virus Name and Prototype Number

Prototype Strain Number / Designation LEIV-65A	Accession Number	Original Date Submitted 9/28/1984
Family Togaviridae	Genus Alphavirus	
Information From D.K. Lvov	Address Inst. Virol., USSR Acad. Med. Sciences, Gamaleya St., 16, Moscow, USSR	
Information Footnote Reviewed by editor		

Section II - Original Source

Isolated By (name) D.K. Lvov, et al.	Isolated at Institute Moscow, USSR	
Host Genus Culex modestus, pool of 150 mosquitoes	Species	Host Age/Stage Adult
Sex Female		
<u>Isolated From</u>	<u>Isolation Details</u>	
Signs and Symptoms of Illness	Arthropod Depleted	
Time Held Alive before Inoculation		
Collection Method Aspirator	Collection Date 8/16/1969	
Place Collected (Minimum of City, State, Country) Kyzylagach Preserve, Azerbaijan SSR		
Latitude 39° 3' N	Longitude 48° 50' E	
Macrohabitat Breeding colony of Ardeidae	Microhabitat Shallow water with overgrowth tamarisk	Method of Storage until Inoculated -50dC
Footnotes		

Section III - Method of Isolation

Inoculation Date
9/13/1969

Animal (Details will be in Section 6)
nb mice

Route Inoculated Intracerebral	Reisolation Yes
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Other Reasons
Virus different from those existing in the laboratory

Homologous Antibody Formation by Source Animal

Test(s) Used

Footnotes

Section IV - Virus Properties

Physicochemical
RNA

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) 50%	After Treatment Titer <1.0 dex	Control Titer 5.8 dex
Lipid Solvent (chloroform)	After Treatment Titer	Control Titer
Lipid Solvent (deoxycholate) 1:1000	After Treatment Titer 2.5 dex	Control Titer 5.5 dex
Other (formalin, radiation)		

Virion Morphology

Shape Spherical	Dimensions 60 nm	
Mean nm	Range nm	
Measurement Method Electron microscope	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 **Chick embryo and duck embryo cell culture fluid** **Goose**

pH Range pH Optimum
5.6-6.2 **5.8**

Temperature Range Temperature Optimum
 4dC

Remarks
*** Insensitive to 5-bromo-2-deoxyuridine during replication.**

Serologic Methods Recommended
CF, NT

Footnotes
*** Insensitive to 5-bromo-2-deoxyuridine during replication.**

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

Kyzylgach antigen in the CF test did not react with MIAF to the viruses of 16 antigenic groups and 17 ungrouped viruses including those from families Togaviridae (flavivirus), Reoviridae (Orbivirus), Bunyaviridae, Poxviridae (Orthopoxvirus), and unclassified.

Kyzylgach reacted only with MIAF to the virus Sindbis (family Togaviridae, Alphavirus).

Antigenic Relationship of Viruses Kyzylgach and Sindbis

MIAF	CF Test Antigen		NT Virus	
	Kyzylgach	Sindbis	Kyzylgach	Sindbis
Kyzylgach	64	0	2.7 ^a	0.9
Sindbis	32	64	2.3	2.5

0 = <4

^a LNI in dex.

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 TC50/ml (e)	Day (c)	Size (f)	Titer PFU/ml (e)	
Chick embryo (PC)	SM 5	1-2	CPE	7.0 (b)			7.4 (b)	
Duck embryo (PC)		1-2	CPE	8.0			7.4	
Human embryo(PC)		1-2	CPE	3.2				
RH (CL)			CPE					
BHK-21 (CL)			CPE					
HEp-2 (CL)			No CPE					+
HeLa (CL)			No CPE					+
A1 (CL)			No CPE					+
L (CL)			No CPE					+
Vero (CL)			No CPE					+

(b) Expressed in dex

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
Culex modestus	1/30 pools (4,500 adults)		Lenkoransk Region, Azerbaijan SSR

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 log ₁₀ /ml
Mice (nb)	SM 5	ic 0.01	Paralysis, death	4-5	7.0
Mice (nb)		ip 0.5	None		
Mice (nb)		sc			
Mice (wn)		ic 0.03	None		
Mice (wn)		ip 0.2	Antibody		
Mice (ad)		ip 0.2	Antibody		
hamsters (ad)		ip 0.2	Antibody		
guinea pigs (ad)		ip 0.2	Antibody		
rats (ad)		ip 0.2	Antibody		
rats (nb)		ic 0.03	Paralysis, death	5-6	4.5

Section IX - Experimental Arthropod Infection and Transmission

Arthropod species & virus source(a)	Method of Infection log ₁₀ /ml (b)		Incubation period (c)		Transmission by bite (d)		Assay of arthropod, log ₁₀ /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

Residual

Death

Subclinical

Overt Disease

Clinical Manifestations

Number of Cases

Category (i.e. febrile illness, etc.)

Section XII - Geographic Distribution

Known (Virus detected)

Azerbaijan SSR, USSR

Suspected (Antibody only detected)

Section XIII - References

1. Lvov, D.K., et al. 1975. 18th Sci. Session of Inst. of Polio. And Virus Enceph., USSR AMS, pp. 322-324.
2. Lvov, D.K., et al. 1979. Vopr. Virusol. No. 5:519-523.

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