

Virus Name: Chim		Abbreviation: CHIMV
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 Ungrouped		

SECTION I - Full Virus Name and Prototype Number

Prototype Strain Number / Designation LEIV-858Uz	Accession Number	Original Date Submitted 9/28/1984
Family Not listed	Genus Not listed	
Information From D.K. Lvov	Address Inst. Virol. USSR Acad. Med. Sciences, Gamaleya, 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 Rhipicephalus turanicus, pool of 50 ticks	Species	Host Age/Stage Adult, nymphs
Sex Not Answered		
<u>Isolated From</u>	<u>Isolation Details</u>	
Signs and Symptoms of Illness	Arthropod Depleted	
Time Held Alive before Inoculation 25 days		
Collection Method Unknown	Collection Date 6/15/1971	
Place Collected (Minimum of City, State, Country) Chim Village, Kashkadarynsk Region, Uzbek, USSR		
Latitude 38° 47' N	Longitude 66° 18' E	
Macrohabitat Steppe	Microhabitat Burrow of Rhombomys opimus	Method of Storage until Inoculated Held alive at 4C
Footnotes		

Section III - Method of Isolation

Inoculation Date
7/10/1971

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 laboratory. Four other strains isolated.*

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 3.3 dex
Lipid Solvent (chloroform)	After Treatment Titer	Control Titer
Lipid Solvent (deoxycholate) 1:1000	After Treatment Titer <1.0 dex	Control Titer 6.0 dex
Other (formalin, radiation)		

Virion Morphology

Shape	Dimensions 100-200 nm	
Mean nm	Range nm	
Measurement Method Electron microscopy (2)	Surface Projections/Envelope Lipid-containing envelope (2)	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)
No **SMB ext. by sucrose-acetone** **Goose**

pH Range pH Optimum
5.0-7.0

Temperature Range Temperature Optimum
4dC, 22dC

Remarks
*** One was isolated from *O. papillipes* and three from *O. tartakovskiy* ticks. ** Insensitive to 5-bromo-2-deoxyuridine during replication.**

Serologic Methods Recommended
CF

Footnotes
*** One was isolated from *O. papillipes* and three from *O. tartakovskiy* ticks. ** Insensitive to 5-bromo-2-deoxyuridine during replication.**

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

Chim antigen in the CF test did not react with MIAF to the following viruses: Togaviridae-Alpha-virus (polyvalent, Getah, Sindbis); flavivirus (polyvalent, tick-borne enc., Powassan, Jap. enc., West Nile, Karshi, Tyuleny, Sokuluk); Reoviridae-Orbivirus (Kemerovo, Baku, Okhotskiy, Wad Medani, Tribec, CTF); Bunyaviridae-Bunyavirus, antigenic groups Bunyamwera (polyvalent, Batai), California (Tahyna, Trivittatus), Simbu (Simbu, Akabane, Sathuperi), Tete (Bahig, Matruh, Tete); Matariya group (Matariya); the Uukuniemi group (Uukuniemi, Zaliv Terpeniya), the Bakau group (polyvalent), the Congo-CHF group (CHF), the Kaisodi group (Kaisodi, Lanjan, Silverwater), the NSD group (Dugbe), the Turlock group (Turlock), the Sakhalin group (Sakhalin), the DGK group (DGK), the Upolu group (Upolu), Rhabdoviridae-the Sawgrass group (Sawgrass), ungrouped (Lone Star, Tamdy, Razdan, Khasan, Parmushir); unclassified-the Quananfil group (Quaranfil), the Qalyub group (Bandia, Qalyub), Hughes (Hughes, Soldado), the Nyamanini group (Nyamanini), ungrouped (Batken, Issyk-Kul, Kaspiy, Chobar Gorge, Dhor, Jos, Matucare, Nyamanini, Oyta, Sawgrass, Upolu, Wanowrie).
The titer of Chim MIAF reacting with Chim antigen was 256.

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							Growth Without CPE +/- (g)
		CPE			PLAQUES				
		Day (c)	Extent (d)	Titer TCD50/ml (e)	Day (c)	Size (f)	Titer PFU/ml (e)		
L (CL)	SM 4		CPE	1.5(a)					
RH (CL)			CPE	1.5					
BHK-21 (CL)			CPE	1.0					
HeLa (CL)			No CPE					+; Interference-with WEE virus.	
A1 (CL)			No CPE						
HEp-2 (CL)			No CPE						
Chick embryo (PC)			No CPE					+; Interference-with WEE virus-	
Duck embryo (PC)			No CPE						
Human embryo (PC)			No CPE						

(a) Expressed in dex

Vertebrate (species and organ) and arthropod	No. isolations/No. tested	No. with antibody/No. tested Test used	Country and region
Rhipicephalus turanicus	1/8 pools	(98 adults)	Kamashinsk Region, Kashkadarynsk Province, Uzbek SSR
Ornithodoros papillipes	1/9 pools	(261 adults and nymphs)	
O. tartakovskiy	1/1 pool	(9 adults)	Romitansk Region, Bukharsk Province, Uzbek SSR
O. tartakovskiy	2/28 pools	(1,146 adults and nymphs)	Yangiersk Region, Syrdarynsk Province, Uzbek 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 log10/ml
Mice (nb)	SM 4	ic 0.01	Paralysis, death	6-8	9.0
Mice (nb)		ip 0.05	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 0.5	Antibody		
guinea pigs (ad)		ip 1.0	Antibody		
rats (ad)		ip 1.0	Antibody		
rats (nb)		ic 0.03	None		

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)	
<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) Uzbek SSR, USSR
Suspected (Antibody only detected)

Section XIII - References

1. Lvov, D.K. et al. 1974. Ecology of Viruses, 2: 80-82. 2. Lvov, D.K. et al. 1979. Vopr. Virusol. No. 3:286-289. 3. Lvov, D.K. et al. 1975. Proc. 18th Sci. Session of Inst. of Polio. And Virus Enceph. USSR AMS, pp. 322-324.
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Remarks
