Virus Name: Slovakia	Abbreviation: SLOV

Status
Not Arbovirus

Select Agent
No

SALS Level
3

SALS Basis
Isufficient 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
Argas persicus 265

Accession Number

Original Date Submitted
5/31/1984

Family
Not listed

Genus
Not listed

Information From
M. Gresikova, et al.

Address
Institute of Virology, Slovak Academy of Sciences, Bratislava, Czechoslovakia

Information Footnote

Section II - Original Source

Isolated By (name)
M. Gresikova, et al. (1)

Isolated at Institute
Institute of Virology, Bratislava

Host Genus
Argas persicus ticks (not fully engorged)

Species

Host Age/Stage
Imago

Sex
Female

Isolated From

Isolation Details

Signs and Symptoms of Illness

Arthropod
Engorged

Time Held Alive before Inoculation
55 days

Collection Method
Manual collection from chickens

Collection Date
7/7/1976

Place Collected (Minimum of City, State, Country)
S. Slovakia, Bratislava Co., Vajnory area, CZ

Latitude
48° 8' N

Longitude
17° 8' E

Macrohabitat
Chicken house

Microhabitat
Cracks in wood

Method of Storage until Inoculated
In glass tube at +4dC

Footnotes

Section III - Method of Isolation

Inoculation Date
9/1/1976

Animal (Details will be in Section 6)
nb mice

Route Inoculated
Intracerebral

Reisolation
Yes

Other Reasons
Agent different from any virus in laboratory

Homologous Antibody Formation by Source Animal

Test(s) Used

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)
Persists at pH 3.0

Lipid Solvent (ether - % used to test) **1.1**	After Treatment Titer **3.0 dex**	Control Titer **4.5 dex**
Lipid Solvent (chloroform)	After Treatment Titer	Control Titer
Lipid Solvent (deoxycholate) **1:1000**	After Treatment Titer **4.5 dex**	Control Titer **4.5 dex**

Other (formalin, radiation)
Virus protected against thermal inactivation by 1M MgCl2

Virion Morphology

Shape	Dimensions **<50 nm**	
Mean nm	Range nm	
Measurement Method **Millipore filtration**	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

Hemaggiutination	Antigen Source	Erythrocytes (species used)
No	**SMB ext. by sucrose-acetone**	**Goose***
pH Range	pH Optimum	
5.7-7.0		
Temperature Range	Temperature Optimum	

Remarks
*** Human 0 erythrocytes also tested with negative results.**

Serologic Methods Recommended
CF

Footnotes
*** Human 0 erythrocytes also tested with negative results.**

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

Complement-fixation:

The Slovakia antigen (homologous titer of 64/32) gave negative results by CF when tested against the following immune grouping fluids obtained from NIH: Groups A, B, C, Guama, Simbu, VSV, Bunyamwera, California, Tacaribe, Phlebotomus fever, Polyvalent Quaranfil, Polyvalent Anopheles A, Anopheles B and Turlock, Polyvalent Patois, Group Capim, Polyvalent Palyam, Group Kemerovo, Polyvalent Congo, Polyvalent rabies, and Polyvalents 1 through 10 and Polyvalent 12.
In other CF tests, Slovakia antigen failed to fix complement in the presence of hyperimmune sera prepared against tick-borne encephalitis, Kemerovo, Uukuniemi, Tettnang, and Eyach viruses.
Slovakia virus antibody cross-reacts with an antigen of mouse hepatitis virus by complement-fixation. Slovakia virus may be contaminated with mouse hepatitis virus or it may be closely related to mouse hepatitis virus [3] .

Section VI - Biologic Characteristics

Virus Source (all VERTEBRATE isolates)
Blood (LV)

Lab Methods of Virus Recovery (ALL ISOLATIONS)
Newborn mice

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)	+/- (g)	
Chick embryo(PC)	MB 5		No CPE			No plaques visible		-	
PS (CL)			No CPE			No plaques visible		-	
Vero (CL)			No CPE					-	

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
Argas persicus	1/406 pools * (6,386 ticks)		Vajnory, Bratislava, Slovakia, CZ

* A suspension prepared from a single female tick yielded the virus.

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)	MB 4	4.5 dex ic 0.01	Death	7.0**	4.5
Mice (nb)		ip			
Mice (nb)		sc 0.05	Nonpathogenic		
Mice (wn)		ic 0.03	No deaths, CF antibody prod.		
Mice (wn)		sc 0.1	No deaths, CF antibody prod.		
rats (nb)		ic 0.1	Nonpathogenic		
rats (nb)		sc 0.2	Nonpathogenic		
rats (nb)		intracut 0.2	Nonpathogenic		
rats (nb)		ip 0.2	Nonpathogenic		
guinea pigs (nb)		ic 0.05	Nonpathogenic		
guinea pigs (nb)		sc 0.01	Nonpathogenic, no CF antibody		
guinea pigs (nb)		ip 0.01	Nonpathogenic, no CF antibody		
guinea pigs (ad)		ip 0.05	Nonpathogenic, no CF antibody		
rabbit (ad)	MB 5	iv 0.1	Nonpathogenic, no CF antibody		
Anas platyrhynchos		4.5 dex sc	Viremia		

** Incubation rather than AST.

Section IX - Experimental Arthropod Infection and Transmission

Arthropod species & virus source (a)	Method of Infection log10/ml (b)		Incubation period (c)		Transmision by bite (d)		Assay of arthropod, log10/ml (e)		
	Feeding	Injected	Days	°C	Host	Ratio	Whole	Organ	System
Argas persicus, third state nymphs, infected by feeding on viremic Anas platyrhynchos (2)	15 min		2						Suckling mice

Section X - Histopathology

Character of lesions (specify host)
Meningoencephalitis, focal necrosis of neurons in cortex, basal ganglia, brain stem, extensive edema. Slight cuffing with polynuclear cells, mononuclear leukocytes. Positive immuno- fluorescence in neurons by indirect method

Inclusion Bodies — Intranuclear

Organs/Tissues Affected
CNS after ic inoculation

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)
Czechoslovakia

Suspected (Antibody only detected)

Section XIII - References

1. Gresikova, M. et al. 1978. Acta Virol. 23:82-85.
2. Nosek, J. et al. 1978. Z. Parasitenk. 242:141-147.
3. Gresikova, M. Personal communication. 1981.

Remarks

Argas persicus 265 was resistant to deoxycholate treatment, and it was protected by 1 M MgCl2 against thermal inactivation. It persisted at pH 3.0.