Virus Name: Great Island		Abbreviation: GIV
Status **Possible Arbovirus**	Select Agent **No**	SALS Level **2**

SALS Basis
Results of SALS surveys and information from the Catalogue.

Other Information

Antigenic Group
Kemerovo

SECTION I - Full Virus Name and Prototype Number

Prototype Strain Number / Designation	Accession Number	Original Date Submitted
CanAr 41		7/19/1984

Family	Genus
Reoviridae	**Orbivirus**

Information From	Address
Andrew J. Main, Jr.	**Yale Arbovirus Research Unit (YARU), 60 College St., New Haven, CT 06510, USA**

Information Footnote
Revised

Section II - Original Source

Isolated By (name)	Isolated at Institute	
A.J. Main, Jr (1)	**YARU**	
Host Genus **Ixodes uriae (=I. putus)**	Species	Host Age/Stage **Nymphs**

Sex
Not Answered

Isolated From	Isolation Details
Signs and Symptoms of Illness	Arthropod **Engorged**

Time Held Alive before Inoculation
5 days

Collection Method	Collection Date
By hand	**6/27/1971**

Place Collected (Minimum of City, State, Country)
Great Island, Newfoundland, Canada

Latitude	Longitude
47° 11' N	**53° 8' W**

Macrohabitat	Microhabitat	Method of Storage until Inoculated
Rocky island	**Substrate from puffin (Fratercula arctica) burrows**	**Alive for 5 days, then frozen at -70dC for 17 days**

Footnotes

Section III - Method of Isolation

Inoculation Date
8/18/1971

Animal (Details will be in Section 6)
nb mice

Route Inoculated
Intracerebral

Reisolation
Yes

Other Reasons
Six additional isolates from Great Island

Homologous Antibody Formation by Source Animal
Not tested

Test(s) Used

Footnotes

Section IV - Virus Properties

Physicochemical
RNA, Double Strand

Pieces (number of genome segments)
10 (2)

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)
pH 3.0 <1.5 dex pH 72. 8.4 dex

Lipid Solvent (ether - % used to test) **1:2**	After Treatment Titer **3.0 dex**	Control Titer **4.7 dex**
Lipid Solvent (chloroform) **1:2**	After Treatment Titer **<2.7 dex**	Control Titer **4.7 dex**
Lipid Solvent (deoxycholate) **1:1000; 1:500; 1:100**	After Treatment Titer **4.8; 2.6; 2.7 dex**	Control Titer **4.9 dex**

Other (formalin, radiation)

Virion Morphology

Shape

Dimensions

Mean
<0.22 nmnm

Range
nm

Measurement Method

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 **No**	Antigen Source **SMB ext. by sucrose-acetone**	Erythrocytes (species used) **Goose**
pH Range **5.8-7.0**	pH Optimum	
Temperature Range **4dC; 22dC; 37dC**	Temperature Optimum	

Remarks

Serologic Methods Recommended
NT, CF

Footnotes

Great Island (CanAr 41)

Virus (strain)	Antigen/Virus CF Ht/Ho	CF Ratio	NT Ht/Ho	Ascitic Fluid CF Ht/Ho	CF Ratio	NT Ht/Ho
Bauline (CanAr 14)	128/128 *	1/1	0.2/2.7 **	128/128	1/1	0.4.3.4
Tindholmur (DenAr 2)	64/32	2/1	0.2/2.4	128/128	1/1	0.5/2.7
Mykines (DenAr 12)	32/256	1/8	0.5/2.6	64/128	1/2	0.0/2.7
Cape Wrath (ScotAr 20)	16/64	1/4	0.6/3.3	64/32	2/1	0.1/3.0
(FinV-808)	512/1024	1/2		64/128	1/2	
(FinV-873)	128/256	1/2		128/128	1/1	
(FinV-962)	64/64	1/1		128/128	1/1	
Yaquina Head (RML 15)	16/32	1/2	0.3/2.9	64/128	1/2	0.6/3.4
Yaquina Head (RML 62)	64/128	1/2		16/64	1/4	
Okhotskiy (LEIV 287ka)	8/32	1/4	0.8/3.3			0.5/2.7
Nugget (AusMI-14847)	128/512	1/4	0.0/3.2	256/128	2/1	0.3/2.7
Kemerovo (R-10)	32/256	1/8	0.6/5.4	64/128	1/2	0.0/2.3
Lipovnik (Lip 91)	32/128	1/4		32/128	1/4	
Tribec (original)	16/128	1/8	0.4/3.1	32/128	1/4	0.1/2.3
Chenuda (EgAr 1152)	<4/256	<1/64		<4/128	<1/32	
Mono Lake (CalAr 861)	8/256	1/32		<4/128	<1/32	
Huacho (CalAr 883)	4/256	1/64		4/128	1/32	
Wad Medani (EgAr 492)	<4/>256	<1/64		<4/12	<1/32	

* Heterologous serum titer/homologous serum titer

** Heterologous LNI/homologous LNI; LNI given 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	
		Day (c)	Extent (d)	Titer TCD50/ml (e)	Day (c)	Size (f)	Titer PFU/ml (e)	+/- (g)	
Vero (CL)	P-5					1-3 mm	6.3(a) (3)		
Vero (CL)	P-4				3		6.0		
MA-111 (CL)	P-5					1-3 mm (3)			
Duck embryo(PC)						No plaques (3)			

(a) 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
Ixodes (Ceratixodes) uriae White (= I. putus Pick.-Camb.)			Great Island, Newfoundland Canada 1971, 1972 (1, 4))
eggs	0/227/3 *		
larvae	0/48/6		
nymphs	4/479/60		
adult males	0/105/14		
adult females	3/356/60		
Larus argentatus (chicks)	0/84	0/28 NT	
Larus marinus (chicks)	0/2	0/2 NT	
Rissa tridactyla (chicks)	0/15		
Uria aalge (chicks)	0/3		
Fratercula arctica (chicks)	0/20		
Fratercula arctica (ad)		49/119 NT	
Oceanodroma leucorhoa (ad)		6/104 NT	

* Number of isolates/number of ticks/number of pools

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)	CanAr 41, P 2-5	ic 0.02	Paralysis, death(5)	2-4	5.4-8.5
Mice (nb)	P-4	ip 0.02	Paralysis, death	5-6	9.1
Mice (nb)		sc			
Mice (wn)		ic 0.03	Death	4-6	5.7
Mice (wn)		ip 0.03	None		
chicks (nb)	P-3	ic 0.03	Paralysis, death	1-3	6.8
chicks (nb)		sc 0.03	Paralysis, death	3-6	
chicks (nb)	P-5	ic	No viremia; no NT antibody		
chicks (nb)		sc	No viremia; no NT antibody		

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
Culex pipiens quinquefasciatus		4.5	2-10	28			negative		suckling mice(5)

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)
Newfoundland, Canada

Suspected (Antibody only detected)

Section XIII - References

1. Main, A.J., et al. 1973. J. Med. Ent., 10:229-235.
2. Knudson, D.L. Personal communication. 1980.
3. Calisher, C.H. Personal communication. 1980.
4. Main, A.J., et al. 1976. J. Wildlife Dis. 12:182-194.
5. Main, A.J. 1976. J. Med. Ent. 13:304-308.

Remarks