| Virus Name: Bauline | Abbreviation: BAUV |
|---|---|

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
**CanAr 14**

Accession Number

Original Date Submitted
7/18/1984

Family
**Reoviridae**

Genus
**Orbivirus**

Information From
**Andrew J. Main, Jr.; revised**

Address
**Yale Arbovirus Research Unit; 60 College St., New Haven, CT 06510, USA**

Information Footnote
**Revised**

## Section II - Original Source

Isolated By (name)
**A.J. Main, Jr.**

Isolated at Institute
**YARU**

Host Genus
**Ixodes uriae (= Ixodes 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
**9 days**

Collection Method
**By hand**

Collection Date
**7/23/1971**

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

Latitude
**47° 11' N**

Longitude
**53° 8' W**

Macrohabitat
**Rocky island**

Microhabitat
**Substrate from puffin (Fratercula arctica) burrows**

Method of Storage until Inoculated
**Alive for 9 days, then frozen at -60dC for 12 days**

Footnotes

## Section III - Method of Isolation

Inoculation Date
**8/13/1971**

Animal (Details will be in Section 6)
**nb mice**

Route Inoculated
**Intracerebral**

Reisolation
**No**

Other Reasons
**Five additional isolates from Ixodes uriae on Great Island in 1972**

Homologous Antibody Formation by Source Animal

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)

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### Stability of Infectivity (effects)

pH (infective range)
**pH 3.0: <1.5 dex; pH 7.2: 7.7 dex**

| | | |
|---|---|---|
| Lipid Solvent (ether - % used to test)<br>**1:2** | After Treatment Titer<br>**3.9 dex** | Control Titer<br>**7.8 dex** |
| Lipid Solvent (chloroform)<br>**1:2** | After Treatment Titer<br>**3.7 dex** | Control Titer<br>**7.8 dex** |
| Lipid Solvent (deoxycholate)<br>**1:1000; 1:500; 1:100** | After Treatment Titer<br>**5.2; 2.6; 2.0 dex** | Control Titer<br>**4.7 dex** |

Other (formalin, radiation)

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### Virion Morphology

Shape

Dimensions
**<220 nm**

Mean
nm

Range
nm

Measurement Method
**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<br>**5.8-7.0** | pH Optimum | |
| Temperature Range<br>**4dC, 22dC, 37dC** | Temperature Optimum | |

Remarks

Serologic Methods Recommended
**CF, NT**

Footnotes

**BAULINE (CanAr 14)**

| Virus (strain) | Antigen CF Ht/Ho | Antigen CF Ratio | Antigen NT Ht/Ho | Ascitic Fluid CF Ht/Ho | Ascitic Fluid CF Ratio | Ascitic Fluid NT Ht/Ho |
|---|---|---|---|---|---|---|
| Great Island (CanAr 41) | 128/128 | 1/1 | 0.4/3.4 | 128/128 | 1/1 | 0.2/2.7 |
| Tindholmur (DenAr 2) | 32/32 | 1/1 | 1.0/2.4 | 128/128 | 1/1 | 0.0/3.0 |
| Mykines (DenAr 12) | 8/256 | 1/32 | <1.1/2.6 | 128/128 | 1/1 | 0.0/3.0 |
| Cape Wrath (ScotAr 20) | 32/64 | 1/2 | 0.0/3.3 | 64/128 | 1/2 | 0.3/1.9 |
| (FinV-808) | 256/1024 | 1/4 | | 64/128 | 1/2 | |
| (FinV-873) | 128/256 | 1/2 | | 128/128 | 1/1 | |
| (FinV-962) | 64/64 | 1/1 | | 64/128 | 1/2 | |
| Yaquina Head (RML 15) | 16/32 | 1/2 | 0.3/3.7 | 64/128 | 1/2 | 0.7/2.7 |
| Yaquina Head (RML 62) | 128/64 | 2/1 | | 8/32 | 1/4 | 1.2/2.1 |
| Okhotskiy (LEIV 287ka) | <4/32 | <1/8 | <1.0/3.3 | | | 0.2/2.4 |
| Nugget (AusMI-14847) | 128/512 | 1/4 | 0.0/3.2 | 128/128 | 1/1 | 0.7/2.4 |
| Kemerovo (R-10) | 32/256 | 1/8 | 0.1/5.2 | 64/128 | 1/2 | 0.1/1.9 |
| Lipovnik (Lip 91) | 32/128 | 1/4 | | 32/128 | 1/4 | |
| Tribec (original) | 16/128 | 1/8 | 0.0/2.7 | 32/128 | 1/4 | 0.3/1.9 |
| 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 | | <4/128 | <1/32 | |

CF: Heterologous serum CF titer/homologous serum CF titer

NT: Heterologous LNI in dex/homologous LNI

## 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-3 | | | | 3 | Plaques | 6.0* | | |

* 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 41; (= I. putus) | | | Great Island, Newfoundland, Canada;1971, 1972(1, 3) |
| eggs | 0/227/3 * | | |
| larvae | 0/48/6 | | |
| nymphs | 2/479/60 | | |
| adult males | 1/105/14 | | |
| 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 (adults) | | 47/126 NT | |
| Oceanodroma leucorhoa (adults) | | 5/128 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 14, SMB 2-3 | ic 0.02 | Paralysis, death(4) | 3-4 | 6.0-7.7 |
| Mice (nb) | SMB 4 | ip 0.02 | Paralysis, death | 4-5 | 7.1 |
| Mice (nb) | | sc | | | |
| Mice (wn) | | ic 0.03 | None | | |
| Mice (wn) | | ip 0.03 | None | | |
| chicks (1 day) | SMB 3 | ic 0.03 | Paralysis, death | 2-4 | 5.1 |
| "" (1 day) | | sc 0.03 | Paralysis, death | 3-5 | |
| "" (2 day) | SMB 4 | ic | No viremia or NT antibody | | |
| "" (2 day) | | sc | No viremia or 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 |
| Aedes aegypti | | 4.1 | 2-10 | 28 | | | negative | | nb mice (3,4) |
| Culex pipiens quinquefasciatus | | 4.5 | 2-10 | 28 | | | negative | | nb mice |
| Anopheles quadrimaculatus | | 4.1 | 2-12 | 28 | | | negative | | nb mice |

## 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. Main, A.J., et al. 1976. J. Wildlife Dis. 12:182-194.
4. Main, A.J., et al. 1976. J. Med. Ent. 13:304-308.

## Remarks