

|  |                           |                           |
|--|---------------------------|---------------------------|
| <b>Virus Name: Yacaaba</b>   |                           | <b>Abbreviation: YACV</b> |
| Status<br><b>Possible Arbovirus</b>  | Select Agent<br><b>No</b> | SALS Level<br><b>3</b>    |
| SALS Basis<br><b>Insufficient experience with virus; i.e., experience factor from SALS surveys was less than 500 in laboratory facilities with low biocontainment.</b> |                           |                           |
| Other Information  |                           |                           |
| Antigenic Group<br><b>Ungrouped</b>  |                           |                           |

**SECTION I - Full Virus Name and Prototype Number**

|   |  |  |
|---|--|--|
| Prototype Strain Number / Designation<br><b>NB6028</b>      | Accession Number   | Original Date Submitted<br><b>9/8/1984</b> |
| Family<br><b>Unclassified</b>                               | Genus<br><b>Unclassified</b>   |  |
| Information From<br><b>I.D. Marshall and G.M. Woodroffe</b> | Address<br><b>Microbiology Dept. JCSMR, Australian National University, Canberra, A.C.T. 2601, Australia</b> |  |
| Information Footnote<br><b>Reviewed by editor</b>           |  |  |

**Section II - Original Source**

|  |  |   |
|--|--|---|
| Isolated By (name)<br><b>I.D. Marshall and G.M. Woodroffe</b>                                      | Isolated at Institute<br><b>Canberra</b>   |   |
| Host Genus<br><b>Aedes vigilax</b>   | Species  | Host Age/Stage<br><b>Adult</b>  |
| Sex<br><b>Female</b>   |  |   |
| <u>Isolated From</u>   | <u>Isolation Details</u>   |   |
| Signs and Symptoms of Illness  | Arthropod<br><b>Depleted</b>   |   |
| Time Held Alive before Inoculation<br><b>Nil</b>   |  |   |
| Collection Method<br><b>Light trap + CO2</b>   | Collection Date<br><b>4/22/1970</b>  |   |
| Place Collected (Minimum of City, State, Country)<br><b>Nelson Bay, New South Wales, Australia</b> |  |   |
| Latitude<br><b>32° 43' S</b>   | Longitude<br><b>150° 5' E</b>  |   |
| Macrohabitat<br><b>Consolidated sand dunes, swamps, Port Stephens Peninsula</b>                    | Microhabitat<br><b>Angophera, Banksia, Acacia spp. close to paperbark (Melaleuca) swamps</b> | Method of Storage until Inoculated<br><b>Liquid nitrogen and Revco at -70dC</b> |
| Footnotes  |  |   |

**Section III - Method of Isolation**

Inoculation Date  
**5/8/1970**

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

Route Inoculated  
**ic-sc**

Reisolation  
**Yes**

Other Reasons  
**Antigenically unrelated to other viruses in this 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)<br>(S) |
| Percentage wt, of Virion Protein   | Lipid                                | Carbohydrate                         |
| Virion Polypeptides: Number        | Details                              |                                      |
| Non-virion Polypeptides: Number    | Details                              |                                      |
| Virion Density                     | Sedimentation Coefficients(s)<br>(S) |                                      |
| Nucleocapsid Density               | Sedimentation Coefficients(s)<br>(S) |                                      |

**Stability of Infectivity (effects)**

pH (infective range)

|  |   |                                 |
|--|---|---------------------------------|
| Lipid Solvent (ether - % used to test)       | After Treatment Titer                       | Control Titer                   |
| Lipid Solvent (chloroform)                   | After Treatment Titer                       | Control Titer                   |
| Lipid Solvent (deoxycholate)<br><b>1:200</b> | After Treatment Titer<br><b>&lt;2.8 dex</b> | Control Titer<br><b>5.5 dex</b> |
| Other (formalin, radiation)                  |   |                                 |

**Virion Morphology**

|                                     |                               |                                   |
|-------------------------------------|-------------------------------|-----------------------------------|
| Shape<br><b>Bunyavirus-like (2)</b> | Dimensions<br><b>74-85 nm</b> |                                   |
| Mean<br><b>78 nmnm</b>              | Range<br>nm                   |                                   |
| Measurement Method<br><b>EM (2)</b> | 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)  
**No**                      **SMB ext. by sucrose-acetone**                      **Gander**

pH Range                      pH Optimum  
**5.75-7.4**

Temperature Range                      Temperature Optimum  
**37dC**

Remarks

Serologic Methods Recommended  
**CF, NT**

Footnotes

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

Immune ascitic fluid and/or newborn mouse brain antigen failed to react with:

23 Australian and New Guinean arboviruses (JCSMR and QIMR)

33 arbovirus group ascitic fluids (tested by GMW at YARU)

202 individual arbovirus CF antigens (tested by GMW at YARU)

6 mouse and other viruses (tested by GMW at YARU)

**Section VI - Biologic Characteristics**

Virus Source (all VERTEBRATE isolates)

Lab Methods of Virus Recovery (ALL ISOLATIONS)  
Newborn mice (ic)

| 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) |  |                            |
| PS (CL)         | SMB 1                     |                       |            |                    | 7       | No plaques |                  |  |                            |
| Vero (CL)       | SMB 6                     |                       |            |                    | 7       | No plaques |                  |  |                            |

**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<br>Test used | Country and region                         |
|--|---------------------------|---|--|
| Aedes vigilax                                | 1/7,911                   |   | Nelson Bay, New South Wales, Australia (1) |

**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 <sub>10</sub> /ml |
|---------------------------|----------------------------|------------------------|-----------------------------------|------------|-----------------------------|
|                           |                            |                        |                                   |            |                             |
| Mice (nb)                 | SMB 7, NB6028              | ic 0.02                | Paralysis, sometimes              | 7          | 5.1                         |
| Mice (nb)                 |                            | ip 0.03                | fore or hind limbs only; tremors. | 10         | 3.3                         |
| Mice (nb)                 |                            | sc                     | Occasional recovery ip.           |            |                             |
| Mice (wn)                 |                            | ic 0.02                | Antibodies; 1/3 deaths at         | 9          |                             |
| Mice (wn)                 |                            | ip 0.03                | undiluted and 10-1                |            |                             |

**Section IX - Experimental Arthropod Infection and Transmission**

| Arthropod species & virus source(a) | Method of Infection log <sub>10</sub> /ml (b) |          | Incubation period (c) |    | Transmission by bite (d) |       | Assay of arthropod, log <sub>10</sub> /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)<br><b>Australia</b> |
| Suspected (Antibody only detected)         |

**Section XIII - References**

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| 1. Gard, G., et al. 1973. Am. J. Trop. Med. Hyg. 22:551-560.<br>2. Zeller, H. et al. 1989. II. Arch. Virol. Submitted. |
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**Remarks**

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