| Virus Name: Mossuril | Abbreviation: MOSV |
|---|---|

Status
**Possible Arbovirus**

Select Agent
**No**

SALS Level
**2**

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

Other Information

Antigenic Group
**Mossuril**

## SECTION I - Full Virus Name and Prototype Number

Prototype Strain Number / Designation
**SAAr 1995**

Accession Number

Original Date Submitted
10/18/1984

Family
**Rhabdoviridae**

Genus
**Not listed**

Information From
**B.M. McIntosh**

Address
**National Institute for Virology, P/Bag X4, Sandringham, 2131, South Africa**

Information Footnote
**Revised**

## Section II - Original Source

Isolated By (name)
**R.H. Kokernot, et al.(1)**

Isolated at Institute
**S. Afr. Inst. Med. Res., Johannesburg**

Host Genus
**Culex sitiens**

Species

Host Age/Stage
**Adult**

Sex
**Female**

Isolated From

Isolation Details

Signs and Symptoms of Illness

Arthropod

Time Held Alive before Inoculation

Collection Method

Collection Date
**3/25/1959**

Place Collected (Minimum of City, State, Country)
**Lumbo, Mozambique**

Latitude
**14° 0' S**

Longitude
**40° 0' E**

Macrohabitat
**Tropical, coastal plain**

Microhabitat

Method of Storage until Inoculated
**Solid CO2**

Footnotes

## Section III - Method of Isolation

Inoculation Date
**5/31/1959**

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

Route Inoculated
**Intracerebral**

Reisolation
**Not tried**

Other Reasons
**Numerous subsequent isolations from mosquitoes**

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)

| | | |
|---|---|---|
| Lipid Solvent (ether - % used to test) | After Treatment Titer | Control Titer |
| Lipid Solvent (chloroform) | After Treatment Titer | Control Titer |
| Lipid Solvent (deoxycholate) | After Treatment Titer<br>**2.1 dex** | Control Titer<br>**5.6 dex** |

Other (formalin, radiation)

**Virion Morphology**

| | | |
|---|---|---|
| Shape<br>**Typically rhabdovirus (2)** | Dimensions<br>**225-306 X 45-72 nm** | |
| Mean<br>**246 nm**nm | Range<br>nm | |
| Measurement Method<br>**Electron microscopy, thin section** | 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** | **Newborn mouse brain** | |
| pH Range | pH Optimum | |
| Temperature Range | Temperature Optimum | |

Remarks
**Attempted crude saline, sucrose-acetone, acetone-ether**

Serologic Methods Recommended
**CF, NT**

Footnotes
**Attempted crude saline, sucrose-acetone, acetone-ether**

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

| | MOS Antigen | | | MOS Antibody | |
|---|---|---|---|---|---|
| **Antibody** | **CF(3)** | **NT(3)** | **Virus** | **CF(3)** | **NT(3)** |
| Kamese | 1 | >1.8 | Kamese | 4 | >2.5 |

CF results as quotient of homologous/heterologous titers; NT results in dex as difference of log neutralization index from homologous.

By CF, showed no relationship to Kwatta, Navarro, VSV, Piry, Cocal, Flanders, Hart Park, Kern Canyon, Chandipura, rabies, Mokola, Klamath, Obodhiang, kotonkan, Mount Elgon bat, Lagos, bat, bovine ephemeral fever, Joinjakaka [2] .
Listed as a possible member of the Rhabdoviridae [2] , [4] .

Mossuril and Kamese viruses are related to viruses of the Hart Park group [10] .

## 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) | |
| BHK-21 (CL) | MB 8 | 3-4 | 3+ | 4.8* (5) | 14 | 1 mm | | | |
| Vero (CL) | | | | | | Plaques | 7.2* (6) | | |
| LLC-MK2 (CL) | | | | | | No plaques (6) | | | |

* 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 |
|---|---|---|---|
| Man | | 0/102 NT | Mozambique (1) |
| Man | | 2/36 NT | Natal, South Africa(1) |
| Man | | 0/60 NT | Botswana (1) |
| Papio cynocephalus (baboon) | | 1/6 NT | Mozambique (1) |
| Birds: | | | |
| Andropadus virens, Coliuspasser macrourus | 6 | | Centr. Afr.Republic(7) |
| Culex sitiens | 1 | | Mozambique (1) |
| Culex neavei | 2 | | Natal, South Africa(8) |
| Culex decens, Cx telesilla, Cx perfuscus, Cx pruina, Cx weschei, Cx tigripes, Aedes abnormalis group | 22 | | Centr. Afr.Republic(7) |

## 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) | Ar 1995 | ic | Death | 3 | 6.9 |
| Mice (nb) | | ip | None | | |
| Mice (nb) | | sc | | | |
| Mice (wn) | | ic | None | | |
| Mice (wn) | | ip | Antibody | | |
| guinea pig | MB 4, 6 | ic | None | | |
| baboon | MB 6 | ic | None (antibody after 2 booster inoculations) | | |
| rabbit | | ic | 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 quinquefasciatus | 6.7 | | | | | No virus detected in either mosquito species after 17 days at 26C (9). | | | |
| Ae. aegypti | 6.7 | | | | | | | | |

## 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)
**Mozambique (1), South Africa (8), Central African Republic (7)**

Suspected (Antibody only detected)

## Section XIII - References


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## Remarks