Virus Name: Nariva	Abbreviation: NARV

Status
Probably 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
TRVL 42520

Accession Number

Original Date Submitted
12/24/1984

Family
Paramyxoviridae

Genus
Paramyxovirus

Information From
Trinidad Regional Virus Laboratory

Address
P.O. Box 164, Port of Spain, Trinidad

Information Footnote
Reviewed by editor

Section II - Original Source

Isolated By (name)
Trinidad Regional Virus Laboratory(1)

Isolated at Institute
Port of Spain

Host Genus
Zygodontomys brevicauda

Species

Host Age/Stage
Immature

Sex
Male

Isolated From	Isolation Details
Organs/Tissues	**Pooled organs (brain, liver, heart, spleen, kidney)**

Signs and Symptoms of Illness
None

Arthropod

Time Held Alive before Inoculation

Collection Method
Live trapped on ground

Collection Date
7/2/1962

Place Collected (Minimum of City, State, Country)
Bush Bush Forest, Trinidad

Latitude
10° 24' N

Longitude
61° 3' W

Macrohabitat
Bush Bush Forest, Nariva Swamp, Eastern Trinidad

Microhabitat
Semi-evergreen seasonal forest

Method of Storage until Inoculated
None

Footnotes

Section III - Method of Isolation

Inoculation Date
7/2/1962

Animal (Details will be in Section 6)
nb mice

Route Inoculated
Intracerebral

Reisolation
No

Other Reasons
No virus of this type previously encountered.

Homologous Antibody Formation by Source Animal
Not tested

Test(s) Used

Footnotes

Section IV - Virus Properties

Physicochemical
RNA

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) **1:2**	After Treatment Titer **0.5 dex**	Control Titer **3.1 dex**
Lipid Solvent (chloroform)	After Treatment Titer	Control Titer
Lipid Solvent (deoxycholate)	After Treatment Titer	Control Titer

Other (formalin, radiation)

Virion Morphology

Shape
Paramyxovirus-like morphology (4)

Dimensions

Mean nm	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	Antigen Source	Erythrocytes (species used)
Yes	**Sonication of infected Vero cells enhanced by tr. with Tween-ether**	**Guinea pig**
pH Range	pH Optimum	
Temperature Range	Temperature Optimum **4dC**	

Remarks
No HA activity at 37C, or with 1-day chick or goose RBC. Infected cultures showed positive hemadsorption for guinea pig RBC.

Serologic Methods Recommended
CF and NT

Footnotes
No HA activity at 37C, or with 1-day chick or goose RBC. Infected cultures showed positive hemadsorption for guinea pig RBC.

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

No antigenic relationship found by CF test with known Trinidadian arboviruses and over 30 agents exotic to Trinidad. No antigenic relation to the better-known myxoviruses or to a number of other viruses [3] .

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)	
HeLa (CL)	SMB 6		No CPE						
Vero (CL)	SMB 4				10	1 mm	4.6** (2)		

Syncytium formation shown by Nariva virus in BHK-21 and Vero cell cultures.

** 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
Zygodontomys brevicauda	4/441	30/41 N	Bush Bush Forest, Trinidad
Zygodontomys brevicauda		1/37 CF	
Zygodontomys brevicauda	1		Colombia (5)

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)	SMB 2	ic 0.02	Death	6	4.8
Mice (nb)	SMB 4	ip 0.02			
Mice (nb)		sc			
Mice (wn)	SMB 4	ic 0.03	No illness		
Mice (wn)	SMB 2	ip 0.03			
Syrian hamster (ad)	SMB 5	ic 0.05	Antibodies		
guinea pigs (ad)		ic 0.05	Antibodies		
embryonated eggs (7-9 days)	SMB 6	ys + am. s	No death		

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

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)
Trinidad, Colombia

Suspected (Antibody only detected)

Section XIII - References

1. Tikasingh, E.S., et al. 1966. Am. J. Trop. Med. Hyg. 15:235-238.
2. Stim, T.B. 1969. J. Gen. Virol. 5:329-338.
3. Karabatsos, N., et al. 1969. Proc. Soc. Exp. Biol. Med. 130:888-892.
4. Walder, R. 1971. J. Gen. Virol. 11:123-128.
5. Shope, R.E. Personal communication.

Remarks

Four isolations in total, all from pooled organs of Zygodontomys brevicauda (TRVL 42520, 45139, 45173, 49570). No viremia in Z. brevicauda. In mice and Z. brevicauda poor development of CF antibodies. Classification as an arbovirus is doubtful. No isolations from arthropods.