Virus Name: Entebbe bat	Abbreviation: ENTV

Status
Possible 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
IL-30

Accession Number

Original Date Submitted
2/3/1985

Family
Flaviviridae

Genus
Flaviviurs

Information From
J.P. Woodall

Address
YARU, Yale University School of Medicine, New Haven, Connecticut 06510, USA

Information Footnote
Reviewed by editor

Section II - Original Source

Isolated By (name)
Lumsden, et al. (1)

Isolated at Institute
Entebbe, Uganda

Host Genus
Bat (Tadarida (Chaerephon) limbata); (pool of 40)

Species

Host Age/Stage
Ad, juvenile

Sex
Male

Isolated From	Isolation Details
Organs/Tissues	**Pool of submaxillary and greater sublingual glands**

Signs and Symptoms of Illness
None

Arthropod

Time Held Alive before Inoculation

Collection Method
Hand captured

Collection Date
7/4/1957

Place Collected (Minimum of City, State, Country)
Entebbe, Uganda

Latitude
0° 3' N

Longitude
32° 27' E

Macrohabitat
Lakeshore with small-holdings and swamp forest

Microhabitat
Roof of East African Virus Research Institute

Method of Storage until Inoculated
4dC

Footnotes

Section III - Method of Isolation

Inoculation Date

Animal (Details will be in Section 6)
nb mice

Route Inoculated
ic and ip

Reisolation
No

Other Reasons
Different from all other arboviruses and mouse viruses in laboratory

Homologous Antibody Formation by Source Animal
Not tested

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) **1:1**	After Treatment Titer **3:1 dex**	Control Titer **7.0 dex**
Lipid Solvent (chloroform)	After Treatment Titer	Control Titer
Lipid Solvent (deoxycholate)	After Treatment Titer	Control Titer

Other (formalin, radiation)

Virion Morphology

Shape	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	**SMB ext. by acetone-ether; sucrose-acetone + prot; fluorocarbon**	**Goose**

pH Range	pH Optimum
6.2-7.0	**6.6-6.8**

Temperature Range	Temperature Optimum
Room temperature	

Remarks
Some preparations are unstable on overnight incubation in the cold

Serologic Methods Recommended
HI, CF, NT

Footnotes
Some preparations are unstable on overnight incubation in the cold

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

For list of antisera tested by NT, see Reference [1] ; only Group B antisera gave any cross-reaction. Easily separable from Rio Bravo by NT [1] .
Unpublished HI results are:

Antisera to	Antigen						
	ENT	Ntaya	WN	UGS	YF	Zika	Banzi
ENT	5 *	5	4	0	0	0	1
Ntaya	10+	10	10	6	7	4	5
West Nile	7	6	8	3	2	1	3
Uganda S	5	5	5	6	1	0	4
Yellow fever	4	3	3	0	4	0	0
Zika	1	4	3	0	0	8	2

Antisera	Antigen		
	ENT	Dakar bat	BP 111
ENT	4	0	0
MML	7	4	2
Dakar bat	6	8	2
BP 111	3	3	9

* Number of dilutions with HI activity; initial dilution of 1:10 = 1, 1:20 = 2, etc.; 0 = <10.

References: BP 111 [2] , Dakar bat [3] , MML [4] . For further information on antigenic relationships, see References [8] and [9] .

Section VI - Biologic Characteristics

Virus Source (all VERTEBRATE isolates)
Salivary gland (LV)

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 2	5-7	2+ - 3+	7.5** (6)					
Vero (CL)	P-2				16	2 mm	6.8** (7)		
LLC-MK2 (CL)					4	2 mm	8.4 (7)		

** 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		0/20 NT	Uganda
Tadarida (C.) limbata	1/13 pools	46/49 HI	Entebbe, Uganda (5)
(syn. T. (C.) pumila)	(335 bats)		
T. (Mops) condylura		13/56 HI	Uganda (5)
Bats		1/20 NT	Uganda

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)		ic 0.02	Death	4	9.5
Mice (nb)		ip 0.02	Death	5	9.5
Mice (nb)		sc			
Mice (wn)		ic 0.03	Paralysis and death	9	8.5
Mice (wn)		ip 0.1	Antibody		

Resistance of mice to ip inoc. begins to appear between day 14 and 16 of life and is almost complete by day 20.

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)
Adult mice: gross disorganization lateral part of hippocampus; no marked cellular infiltration; no inclusion bodies.

Inclusion Bodies — Intranuclear

Organs/Tissues Affected
Brain (LV)

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)
Uganda

Suspected (Antibody only detected)

Section XIII - References

1. Lumsden, W.H.R., et al. 1961. Ann. Trop. Med. Parasit. 55:389-97.
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5. Shepherd, C. and Williams, M.C. 1964. Zoonoses Res. 3:125-139.
6. Karabatsos, N. and Buckley, S.M. 1967. Am. J. Trop. Med. Hyg. 16:99-105.
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Remarks