

Virus Name: Coastal Plains

Abbreviation: CPV

Status: Possible Arbovirus

Select Agent:

SALS Level:

SALS Basis:

HEPA Filtration:

Antigenic Group: Tibrogargan

Taxonomic status: *Rhabdoviridae*

Other Information: None.

Section I - Full Virus Name and Prototype Number

Full Virus Name:

Coastal Plains

Prototype Number:

DPP 53

Information from: G. P. Gard, D.H. Cybinski

Date:

8/5/1987

Address: Al Tose Virology Lav, Darwin, CSIRO, Division of Trop. Animal Science PB3, Indooroopilly 4068 Australia

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Section II - Original Source

Isolated by: Dr. G. P. Gard

at: Al Rose Virology Lab

Genus and species: *Bos taurus*

Sentinel X

Age/Stage: 18 months **Sex:** M

Isolated From	Isolation detail
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Signs and symptoms of illness: None

Arthropod engorged ~~depleted~~ **gravid**

Time held alive before inoculation:

Collection date: 2/3/1981 **Method:** Venipuncture

Place collected: Coastal Plains Res. Stn., N.I., Australia

Latitude: 12° 39' " S **Longitude:** 132° 20' " W

Macrohabitat: Dry Monsoonal subcoastal plains land system

Microhabitat: Improved tropical grass pasture

Method of storage until inoculated: 6 hours at 4dC

Footnotes:

Section III - Method of Isolation and Validity

Inoculation Date: 3/2/1981

Animal:

Embryonated egg:

Tissue Culture: X

(Details in Section VI - Biologic Char.)

Route inoculated:

Reisolation: Not tried

Other reasons: First isolate of this virus at laboratory

Homologous antibody formation by source animal (See Section II): Yes

Test used: HI

CF

NT

Other:

Footnotes:

Section IV - Virus Properties

Physicochemical:

RNA: X DNA: Single Strand: Double Strand:
Pieces: Infectivity: Sedimentation coefficient(s): /strong>
Percentage wt. of virion protein , lipid carbohydrate
Virion polypeptides:
Number: Details:
Non-virion polypeptides:
Number: Details:
Virion density: Sedimentation coefficient:
Nucleocapsid density Sedimentation coefficient:

Stability of infectivity (effects) pH

Lipid solvent:

(ether) 10% After treatment titer 2.2 dex Control titer 6.2 dex
(chloroform) 10% After treatment titer 2.2 dex Control titer 6.2 dex

Detergent:

(deoxycholate) After treatment titer Control titer

Other (formalin, radiation):

Virion morphology:

ShapeBullet Dimensions 225-320 nm x 55-65 nm
Mean (nm) range (nm) how measured Electron microscopy
Surface projections, envelope
Nucleocapsid dimensions, symmetry

Morphogenesis:

Site of constituent formation in cell

Site of virion assembly

Inclusion bodies

Other

Hemagglutination:

HemagglutinationNo Antigen source BHK-21 cells

Erthrocytes Goose pH range 6.0-7.3 pH optimum

Temperature optimum range

Remarks

Serologic methods recommended NT

Footnotes:

Section V - Antigenic Relationship And Lack of Relationship To Other Viruses

DPP 53 was negative by immunofluorescence against BLU, Simbu, Palyam, bovine ephemeral fever, and epizootic hemorrhagic disease group antisera. A relationship with Tibrogagan virus was demonstrated by serum neutralization and cross-indirect immunofluorescence.

Virus	IMMUNOFLOURESCENCE NEUTRALIZATION			
	Rabbit Antiserum		Rabbit Antiserum	
	Tibrogagan	DPP 53	Tibrogagan	DPP 53
Tibrogagan *	64 **	16	154 ***	16
Coastal Plains (DPP 53)	8	32	16	4096

* Virus diluted at 1/10.

** Reciprocal of highest serum dilution showing fluorescence.

*** Reciprocal of highest serum dilution with neutralizing 100 TCID₅₀ of virus in 50% of the wells.

Section VI - Biologic Characteristics

Virus source (all VERTEBRATE isolates): Bos taurus (LV)

Lab Methods of Virus Recovery (ALL ISOLATIONS): BHK-21 roller tubes

Susceptibility of Cell Culture Systems:

Cell system (a)	Virus passage history (b)	Evidence of Infection						
		CPE			PLAQUES			Growth Without CPE +/- (g)
		Day (c)	Extent (d)	Titer TCD50/ml (e)	Day (c)	Size (f)	Titer PFU/ml (e)	
BHK-21 (CL)	BHK 11							
	Vero 12	56 hrs.	100%	7.0 dex				
	BHK 2							
Vero (CL)	BHK 11				7	1.5 mm	7.7 dex	
	Vero 9							
Vero (CL)	BHK 5	3	100%	7.0 dex				
Aedes albopictus,	BHK 11							
C6/36 clone (CL)	Vero 12	3	No CPE	6.0 dex				+
	BHK 2							

Section VII - Natural Host Range

Vertebrate (species and organ) and arthropod	No. isolations/No. tested	No. with antibody/No. tested Test used	Country and region
Cattle (Bos sp)	1/2,000		Northern Territory, Australia (1)
Buffalo (Bubalis sp)		2/17	Northern Territory, Australia
Cattle (Bos sp)		161/648	Northern Territory, Australia
Cattle (Bos sp)		38/101	Papua, New Guinea
Deer (Cervus sp)		0/240	Northern and Eastern Australia
Humans		0/86	Northern and Eastern Australia
Pigs (Sus sp)		0/47	Northern and Eastern Australia
Wallabies (Wallabia sp)		0/53	Northern Territory, Australia

Section VIII - Susceptibility To Experimental Infection (Record Viremia)

Experimental host and age	Passage history and strain	Inoculation Route-Dose	Evidence of infection	AST (days)	Titer log10/ml
mice (nb)	BHK 10 Vero 3	ic	Paralysis, death	10	

"" (nb)	BHK 10 Vero 3	ip	No effect			
"" (nb)	Not tested	sc				
"" (wn)	Not tested	ic				
"" (wn)	Not tested	ip				

Section IX - Experimental Arthropod Infection And Transmission

Arthropod species & virus source(a)	Method of Infection log10/ml (b)		Incubation period (c)		Transmission by bite (d)		Assay of arthropod, log10/ml (e)		
	Feeding	Injected	Days	°C	Host	Ratio	Whole	Organ	System
Aedes aegypti, DPP 53, BHK 8		7.25	14	20d			3.5		BHK-21 roller tubes
Aedes aegypti, DPP 53, BHK 8		7.25	14	27d			3.0		BHK-21 roller tubes

Section X - Histopathology

Character of lesions:**Inclusion bodies:****Cytoplasmic:(M) (LV) Intranuclear: (M) (LV)****Organs-tissues affected:****Category of tropism:****Section XI - Human Disease**

Human disease: In nature: (S) (R)**Death: (S) (R)****Residua: (S) (R)****Laboratory infections: Subclinical: (S) (R)****Overt Disease: (S) (R)****Clinical manifestations:****Category: No. of cases:****Section XII - Geographic Distribution**

Known (virus):

Northern Territory, Australia

Suspected (antibody):

Queensland and New South Wales, Australia

Section XIII - References

1. Cybinski, D. H. and Gard, G. P. 1986. Aust. J. Biol. Sci., 39:225-32.

Section XIV - Remarks
