

<b>Virus Name: D'aguilar</b>		<b>Abbreviation: DAGV</b>
Status <b>Possible Arbovirus</b>	Select Agent <b>No</b>	SALS Level <b>2</b>
SALS Basis <b>Results of SALS surveys and information from the Catalogue.</b>		
Other Information		
Antigenic Group <b>Palyam</b>		

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

Prototype Strain Number / Designation <b>B8112</b>	Accession Number	Original Date Submitted <b>11/21/1984</b>
Family <b>Reoviridae</b>	Genus <b>Orbivirus</b>	
Information From <b>R.L. Doherty</b>	Address <b>Queensland Institute of Medical Research, Brisbane</b>	
Information Footnote <b>Reviewed by editor</b>		

**Section II - Original Source**

Isolated By (name) <b>R.L. Doherty, et al. (1)</b>	Isolated at Institute <b>Brisbane</b>	
Host Genus <b>Culicoides brevitarsis Kieffer</b>	Species	Host Age/Stage <b>Adult</b>
Sex <b>Female</b>		
<u>Isolated From</u>	<u>Isolation Details</u>	
Signs and Symptoms of Illness	Arthropod	
Time Held Alive before Inoculation		
Collection Method <b>Aspirated from cattle</b>	Collection Date <b>4/2/1968</b>	
Place Collected (Minimum of City, State, Country) <b>Bunya, Queensland, Australia</b>		
Latitude <b>27° 22' S</b>	Longitude <b>152° 57' E</b>	
Macrohabitat <b>East coastal plain, south Queensland</b>	Microhabitat <b>Cattle stud, eucalypt forest partly cleared for pasture</b>	Method of Storage until Inoculated <b>Overnight at 5dC, then stored at -60dC</b>
Footnotes		

**Section III - Method of Isolation**

Inoculation Date  
**4/26/1968**

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

Route Inoculated <b>Intracerebral</b>	Reisolation <b>No</b>
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Other Reasons  
**Additional isolate in same area in 1970; widespread antibody in cattle**

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) <b>50% final</b>	After Treatment Titer <b>5.0 dex</b>	Control Titer <b>5.4 dex</b>
Lipid Solvent (chloroform)	After Treatment Titer	Control Titer
Lipid Solvent (deoxycholate) <b>1:1000 final</b>	After Treatment Titer <b>4.6 dex (3P)</b>	Control Titer <b>2.3 dex (3P)</b>
Other (formalin, radiation) <b>4.7 dex (11P) (after), 4.5 dex (11P) (contrl_ttr)</b>		

**Virion Morphology**

Shape <b>Orbivirus morphology</b>	Dimensions <b>66 + - 4 nm; 70 + - 3 nm</b>	
Mean nm	Range nm	
Measurement Method <b>Thin-sect.; neg. contrast EM (5)</b>	Surface Projections/Envelope <b>Spherical polygonal particles with obvious capsome</b>	Nucleocapsid Dimensions, Symmetry <b>Core = 36 + 3 nm</b>

**Morphogenesis**

Site of Constituent Formation in Cell

Site of Virion Assembly

Site of Virion Accumulation

Inclusion Bodies

Other

**Hemagglutination**Hemagglutination  
NoAntigen Source  
**SMB ext. by sucrose-acetone + prot. tr.,  
sonication or trypsin**Erythrocytes (species used)  
**Goose**pH Range  
**6.0-7.6**

pH Optimum

Temperature Range

Temperature Optimum

Remarks

Serologic Methods Recommended  
CF

Footnotes

Studies at Queensland Institute of Medical Research:

No antigenic relationship by complement-fixation and neutralization tests to any arbovirus or suspected arbovirus isolated or available at this laboratory:

Group A	(Sindbis, Ross River, Getah, Bebaru);		
Group B	(Murray Valley encephalitis, Kunjin, Kokobera, Edge Hill, Stratford, Alfuy, JBE, SLE, dengue types 1-4);		
Koongol group	(Koongol, Wongal);		
Mapputta group	(Mapputta, Trubanaman, MK7532);		
Simbu group	(Akabane, Aino, (Samford));	Quaranfil group	(Abal);
Corriparta group	(Corriparta);	Eubenangee group	(Eubenangee);
Warrego group	(Warrego, Mitchell River);		
others	(Kowanyama, Almpiwari, Upolu, ephemeral fever, Belmont, Charleville, Wallal, Wongorr, Ngaingan).		

Studies at Yale Arbovirus Research Unit

J.G. Carley and R.E. Shope found B8112 antigen non-reactive by CF test to immune ascitic fluids to 13 groups (A, B, C, Guama, Capim, Simbu, Bunyamwera, vesicular stomatitis, Anopheles A, Turlock California, Phlebotomus fever and Tacaribe) and 103 other arboviruses.

R.E. Shope subsequently found B8112 related to but recognizably distinct from members of the Palyam group:

Immune Ascitic Fluids	B8112 Antigen			B8112 Immune Ascitic Fluid			
	CF		NT	CF		NT	Ht/Ho
	Ht/Ho	Ratio	Ht/Ho	Antigens	Ht/Ho	Ratio	
Palyam	16/32	1/2	0/>2.4	Palyam	64/128	1/2	0.3/>4.0
Kasba (G15534)	512/1024	1/2	0/>2.8	Kasba (G15534)	64/128	1/2	1.4/>4.0
Vellore (68886)	512/1024	1/2	1.2/>3.3	Vellore (68886)	64/128	1/2	3.0/>4.0

NT: NT results as LNI expressed in dex

These complement-fixation results, and tests against 22 other solvent-resistant arbovirus, have been published .

## 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							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 11					Plaques	6.8* (3)		

\* 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
Culicoides brevitarsis	1/17,907		Southeast Queensland, Australia, 1968 (1)
Culicoides brevitarsis	1/2,755		Southeast Queensland, Australia, 1970
Cattle		104/132	Queensland, Australia (1)
Sheep		9/23	Western Queensland, Australia (1)
Various other vertebrates		1/244	Queensland, Australia(1)
Cow (blood)	9*		Australia (6)

\* 9 isolations in a span of 11 days from same animal.

**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 3, 11	ic	Death	4-5	6.7, 7.4
Mice (nb)		ip	No overt sign of illness		<3.5
Mice (nb)		sc			
Mice (wn)	SMB 11	ic	No overt sign of illness		<3.5
Mice (wn)		ip	Antibody formation		

**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
Aedes aegypti SMB 11		Intrathoracically inoculated with 0.0006 ml= 1.9 LD <sub>50</sub> /mosquito. Titration of whole mosquitoes at intervals 1-20 days after inoculation; virus undetectable (<1.3 LD <sub>50</sub> per mosquito) 0.5 and 1 days, then rise to >4 LD <sub>50</sub> per mosquito days 12-20 (4).							

**Section X - Histopathology**

Character of lesions (specify host)		
<u>Inclusion Bodies</u>	<u>Intranuclear</u>	
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) <b>Australia</b>
Suspected (Antibody only detected)

**Section XIII - References**

1. Doherty, R.L., et al. 1972. Aust. Vet. J. 48:81-86. 2. Borden, E.C., et al. 1971. J. Gen. Virol. 13:261-271. 3.* Westaway, E.G. 1966. Am. J. Epidem. 84:439-456 **. 4. Carley, J.G., et al. 1973. J. Med. Ent. 10:244-249. 5. Schnagl, R.D. 1971. Aust. J. Biol. Sci. 24:1151-1162. 6. St. George, T.D. and Dimmock, C.K. 1976. Aust. Vet. J. 52:598. ** Reference to cell line, not to results with D'Aguilar virus.
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**Remarks**

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