Virus Name: D'aguilar		Abbreviation: DAGV
Status **Possible Arbovirus**	Select Agent **No**	SALS Level **2**

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

Other Information

Antigenic Group
Palyam

SECTION I - Full Virus Name and Prototype Number

Prototype Strain Number / Designation	Accession Number	Original Date Submitted
B8112		11/21/1984

Family	Genus
Reoviridae	**Orbivirus**

Information From	Address
R.L. Doherty	**Queensland Institute of Medical Research, Brisbane**

Information Footnote
Reviewed by editor

Section II - Original Source

Isolated By (name)	Isolated at Institute	
R.L. Doherty, et al. (1)	**Brisbane**	
Host Genus **Culicoides brevitarsis Kieffer**	Species	Host Age/Stage **Adult**

Sex
Female

Isolated From	Isolation Details
Signs and Symptoms of Illness	Arthropod
Time Held Alive before Inoculation	
Collection Method **Aspirated from cattle**	Collection Date **4/2/1968**

Place Collected (Minimum of City, State, Country)
Bunya, Queensland, Australia

Latitude	Longitude	
27° 22' S	**152° 57' E**	
Macrohabitat **East coastal plain, south Queensland**	Microhabitat **Cattle stud, eucalypt forest partly cleared for pasture**	Method of Storage until Inoculated **Overnight at 5dC, then stored at -60dC**

Footnotes

Section III - Method of Isolation

Inoculation Date
4/26/1968

Animal (Details will be in Section 6)
nb mice

Route Inoculated
Intracerebral

Reisolation
No

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) **50% final**	After Treatment Titer **5.0 dex**	Control Titer **5.4 dex**
Lipid Solvent (chloroform)	After Treatment Titer	Control Titer
Lipid Solvent (deoxycholate) **1:1000 final**	After Treatment Titer **4.6 dex (3P)**	Control Titer **2.3 dex (3P)**

Other (formalin, radiation)
4.7 dex (11P) (after), 4.5 dex (11P) (contrl_ttr)

Virion Morphology

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

capsomic **Core ~ 30 - 5 nm**

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	**SMB ext. by sucrose-acetone + prot. tr., sonication or trypsin**	**Goose**
pH Range **6.0-7.6**	pH Optimum	
Temperature Range	Temperature Optimum	
Remarks		
Serologic Methods Recommended **CF**		
Footnotes		

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

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, Almpiwar, 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:

	B8112 Antigen			B8112 Immune Ascitic Fluid			
	CF		NT	CF		NT	
Immune Ascitic Fluids	Ht/Ho	Ratio	Ht/Ho	Antigens	Ht/Ho	Ratio	Ht/Ho
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							
		CPE			PLAQUES			Growth Without CPE	
		Day (c)	Extent (d)	Titer TCD50/ml (e)	Day (c)	Size (f)	Titer PFU/ml (e)	+/- (g)	
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 log10/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)		ic	No overt sign of illness		<3.5
Mice (wn)	SMB 11	ip	Antibody formation		

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
Aedes aegypti SMB 11		Intrathoracically inoculated with 0.0006 ml= 1.9 LD50/mosquito. Titration of whole mosquitoes at intervals 1-20 days after inoculation; virus undetectable (<1.3 LD50 per mosquito) 0.5 and 1 days, then rise to >4 LD50 per mosquito days 12-20 (4).							

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)
Australia

Suspected (Antibody only detected)

Section XIII - References

1. Doherty, R.L., et al. 1972. Aust. Vet. J. 48:81-86.
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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.

Remarks