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VIRUSES, CHLAMYDIAS, COXIELLAS, RICKETTSIAS AND MYCOPLASMAS REPORTING SCHEME: A total of 986 reports were processed during this period.

Nine cases of Q fever were reported through the CDI reporting scheme during this period. An additional two cases were reported by Dr B. Lynch, Pathologist, of Rockhampton.

Of the eleven cases four were female and seven male. Occupational risk factors were noted for three cases: a station hand, a meatworker and a farmer.

A second Australian case of coxsackievirus A24 from an eye specimen was identified in a 42 year old hospital worker. The first case was reported in CDI 88/10. Neither of the two patients had haemorrhagic conjuntivitis nor had they any record of overseas travel.

Cytomegalovirus was isolated from a sample of amniotic fluid taken from a woman who was 31 weeks pregnant. The fetus was suffering from severe intrauterine growth retardation. An increase in levels of bilirubin in the amniotic fluid was also detected.

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AUSTRALIAN ENCEPHALITIS IN THE NORTHERN TERRITORY - 4 CASE REPORTS

(Case Report 1 and Case Report 4 were submitted by P. Whelan, Medical Entomology Branch Department of Health and Community Services, Darwin and Charles Kilburn, Royal Darwin Hospital; Case Report 2 was submitted by Marion Bucens, State Health Laboratories, Perth and Linda Rockliff, Royal Darwin Hospital; Case Report 3 was submitted by Marion Bucens, State Health Laboratories, Perth and Charles Kilburn, Royal Darwin Hospital; Details of neutralisation tests were submitted by Annette Broom, Microbiology Department, University of Western Australia.)

Case 1

On 6 July 1987, a 17 month old Aboriginal boy from Belyuen, near Darwin, was admitted to Darwin Hospital with a five day history of vomiting and fitting.

On admission to hospital, the patient had fever, rigors and generalised seizures. Neurological examination revealed slight truncal ataxia, dysmetria and generalised hyporeflexia. Lumbar puncture revealed:

- WCC - 372 x 10^6/L (38% polymorphonuclear cells)
- RCC - 39 x 10^4/L
- glucose - 4.7 mmol/L.
- protein - 0.53 g/L.

The boy showed gradual improvement and was discharged on 20 July 1988, after 19 days in hospital. Ataxia was still present at the time of discharge, but had resolved by October 1987.

Serological tests for Murray Valley Encephalitis (MVE) virus on paired sera (carried out by the State Health Laboratories, Perth) revealed:

	6 July 1988	15 July 1988
Haemagglutination inhibition (HI)	<1:10	1:80
IgM	negative	positive

The clinical symptoms, the rise in titre, and the detection of Igm suggested a diagnosis of Australian encephalitis. Neutralisation tests on the original sera to identify the virus were at first reported to be inconclusive. Evidence suggested that it was a flavivirus, and could be either MVE, Kunjin or another flavivirus. Repeat neutralising antibody tests showed MVE - 1:80, Kunjin - 1:20.

This suggests that MVE virus is more likely than Kunjin virus to be the causative agent in this case.

Investigation of the boy's family showed that the parents and one sibling had antibodies to MVE by HI.

Case 2

On 23 March 1988, a 1 month old Aboriginal boy from Maningrida in Arnhem Land, was admitted to Darwin Hospital with a two day history of fever (39.7°C) lethargy, irritability and vomiting.

On admission, the child was diagnosed as having meningitis but the first attempt at lumbar puncture was unsuccessful. He was treated with intravenous fluids, cefotaxime and gentamicin.

Lumbar puncture the next day (24 March 1988) revealed:

. WCC - 311 x 10^6/L (80% mononuclear cells, 20% neutrophils)
. RCC - 305 x 10^6/L,
. glucose - 2.5 mmol/L.

Protein was not tested due to the high red cell count.

Despite therapy with intravenous acyclovir the baby developed epileptic seizures which were prolonged and difficult to control. By 27 March 1988 seizure activity had markedly reduced but there was still tremor in the right hand, occasional nystagmus and a left facial palsy.

Symptoms of bronchiolitis developed and respiratory syncytial virus was cultured from the nasopharyngeal aspirate.

The baby was discharged from hospital on 16 April 1988 with a residual left facial palsy, some nystagmus and an apparent mixture of hypotonia and hypertonia.

Serological tests for MVE on paired sera gave:

	25 March 1988	14 April 1988
Haemagglutination inhibition	1:10	1:640
IgM (immunofluorescence assay using MVE virus infected cells)	negative	positive

Neutralisation tests were conducted on the initial and a later sample gave:

	25 March 1988	5 April 1988
MVE	1:10	1:320
Kunjin	-	1:40

The clinical history and serology and neutralisation tests are consistent with a diagnosis of Australian encephalitis probably due to MVE virus.

Case 3

On 24 April 1988, a 7 month old caucasian boy was admitted to hospital with a two day history of high fevers, runny nose, diarrhoea and vomiting.

On admission to hospital the child was irritable, and had neck stiffness and intermittent epileptic seizure activity. Lumbar puncture gave:

. WCC - 140 x 10^6/L (all mononuclear cells)
. glucose - 2.6 mmol/L.
. protein - 1.38 g/L.

No bacterial or fungal agents were demonstrated by culture or antigen detection techniques. A presumptive diagnosis of viral encephalitis was made.

The baby showed mild coordination difficulties, a mild left facial palsy and had many minor motor epileptic seizures. Treatment with phenobarbitone was commenced and the irritability settled over 4-5 days.

The infant's mother had suffered from herpes labialis at the beginning of April but these lesions were now completely healed. A CAT scan on presentation and again two weeks later showed no abnormality. An EEG showed changes consistent with encephalitis but not diagnostic of herpes simplex encephalitis.

The infant was discharged but then readmitted with increased irritability and possible epileptic activity. He was again discharged two days later. At the time of discharge he was able to sit but not as steadily as before, he had slight uncoordination when reaching for toys, and occasional involuntary, athetoid-like movements.

Investigations on serum collected on 28 April 1988 revealed:

Haemagglutination inhibition:

MVE virus antigen	1:2560
Kunjin virus antigen	1:10

Immunofluorescence assay using
MVE virus infected cells IgM present

Herpes simplex virus antibodies were not detected in the acute or follow-up sera.

Cerebrospinal fluid collected 12 May 1988 did not contain any HI antibody to MVE virus.

The clinical history and serology are consistent with a diagnosis of Australian encephalitis probably due to MVE virus.

Neutralisation studies are in progress.

Case 4

On 12 May 1988, an Aboriginal boy from Maningrida, aged 3 years 9 months, was admitted to hospital with a four day history of fever, anorexia, lethargy and prolonged convulsions.

On admission to hospital the child exhibited photophobia and neck stiffness. Lumbar puncture revealed:

. WCC - 69 x 10^6/L (70% polymorphonuclear cells, 30% mononuclear cells)
. RCC - 5 x 10^6/L
. glucose - 2.5 mmol/L.
. protein - 0.49 g/L.

Serological studies on a sample taken on 13 May 1988 revealed:

Haemagglutionation inhibition (MVE virus antigen)	1:320
IgM	positive*

* There was some doubt about the reliability of the IgM result due to the presence of rheumatiod factor.

Neutralisation tests on the blood gave the following results:

MVE	1:320
Kunjin	1:80

The mother recalled that the child had received numerous mosquito bites, especially 'a few days' prior to illness while on a trip down the Liverpool River. This child lived at Maningrida, at the opposite end of the community to the child in Case 2. Their illnesses occured nearly two months apart.

The clinical features and neutralisation test results in this case are consistent with Australian encephalitis case probably due to MVE virus.

Vector Control Measures

The Medical Entomology Branch of the Department of Health and Community Services, Northern Territory, instituted an investigation for mosquito vectors in the Belyuen area following notification of a possible case of Australian encephalitis. Carbon dioxide baited light traps were set on 30 July 1987 at numerous localities around the community within a 5km radius. All mosquitoes collected were identified and any abundant species were processed for virus isolation. *Culex annulirostris* was found to be present around the community in numbers ranging from 19 to 236 *Cx. annulirostris* per trap night. A total of 1068 *Cx. annulirostris* were collected from 10 trap collections and 1026 were processed for virus isolation. There has been one possible flavivirus isolation from these mosquitoes. There was one virus isolation from *Anopheles novaguinensis* which was not a flavivirus.

A fogging operation was carried out around the community on 5 August 1987 as a precautionary measure against further possible mosquito-borne disease transmission.

In Case 3, the patient had spent 1 week near the South Alligator River, with the onset of symptoms 1 week after returning to Darwin. Mosquito collections were carried out around the area of probable infection at the South Alligator River, 25 days after the onset of symptoms. Carbon dioxide baited light traps yielded 11,501 mosquitoes. The most abundant species were *An. bancroftii* (up to 855/trap), *Cx. annulirostris* (up to 2741/trap), *Coquillettidia xanthogaster* (up to 290/trap) and *Mansonia uniformis* (up to 190/trap). Mosquitoes of all species were processed for virus isolation and these investigatiions are continuing.

Fogging operations have not been carried out in Maningrida or Kakadu as this would be logistically difficult and of questionable effect in these locations.

CDI Editorial Comment

Australian encephalitis (AE) is an infection with a mosquito-borne flavivirus, usually Murray Valley Encephalitis (MVE) virus. Rarely, AE resulting from Kunjin virus has been reported.

Infrequent and sometimes severe epidemics of AE occur in south-east Australia, the most recent epidemic occurring in 1974. In an epidemic situation the disease occurs most frequently in children under 15 years and adults over 50 years of age. Cases of AE are more common in males than in females[1].

In tropical Australia, AE is enzootic and sporadic cases occur at irregular intervals. There have been very few cases of Australian encephalitis reported in the Northern Territory and no fatal cases since 1969[3]. In the 1974 epidemic there were 5 cases in the Northern Territory, but none north of Katherine, despite the greater concentration of people in the Top End. The only subsequent confirmed case of AE in the Northern Territory since 1974 has been one case on Groote Eylandt. MVE virus has not been isolated in the Top End of the Northern Territory since at least 1972 when the Medical Entomology Branch was established, despite extensive mosquito sampling. The only isolation of MVE virus from the Northern Territory since at least 1972 has been from one pool of 50 *Cx. annulirostris* collected by the Medical Entomology Branch at Warlock Ponds, south of Mataranka in March 1984[4].

Cases usually occur from February to May with occasional cases as late as June or July[2]. The mean age of AE cases in Aborigines is under 2 years of age and of caucasians is approximately 30 years.

The four cases, three Aborigines and one caucasian, reported in this article occurred in male infants, in the months of July, March, April and May. MVE virus is implicated in all four cases.

It is possible that there have been other unconfirmed cases of AE in the Top End of the Northern Territory in the past. The present cases may signify an increased awareness of arboviral disease in the Northern Territory and improved diagnostic methods.

All arboviral diseases are notifiable in all States and Territories of Australia. Diagnosis of arboviral disease, including Australian encephalitis, dengue fever and epidemic polyarthritis, cannot be made on the basis of clinical signs and symptoms alone. Appropriate serological data is required to confirm the diagnosis.

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ANTI-HIV TESTING QUALITY ASSURANCE PROGRAMME PANEL NO: 2/1987 - NSW RED CROSS BLOOD TRANSFUSION SERVICE.

(Contributed by K.G. Kenrick, Department of Virology and Biochemistry, Blood Transfusion Service, Sydney)

The second Anti-HIV Testing Quality Assurance Panel for 1987 consisted of twenty (20) samples which were distributed to laboratories in November 1987. The origins and descriptions of the panel samples numbered 1 to 20 were as follows:

Case 1: a 45 year old male Sydney donor with Category C HIV infection identified in 1985.

Neat plasma reactions recorded anti-HIV positive by:

- ELISA from: Abbot-rDNA, Behring, Du Pont, Genetic Systems, Organon-Teknika, Organon-Bionetics, Virgo-ENI, and Wellcome
- Western blot with antibody activity demonstrated at molecular weight bands:

  p18, p24, p34, p40, gp[41-45], p55, p68, gp120.

- immunofluorescence (IF), and
- radioimmunoprecipitation (RIP).

Antibody activity was not removed by absorption with HLA-DR4-positive or HLA-DR4-negative cells.

Recalcified plasma was used for the 'CH' dilution series:

- $10^{-2.0}$ dilution -> sample # a/HIV 287/1
  sample # a/HIV 287/3 (duplicate)
- $10^{-1.5}$ dilution -> sample # a/HIV 287/6
  sample # a/HIV 287/11 (duplicate)

Case 2: a male Sydney donor who declared he did not belong to any risk group when he made his 5th donation on 10 April 1987. His 4th donation was made on 13 September 1983. No medical history was obtained and the donor is yet to attend follow-up.

Neat plasma reactions recorded anti-HIV positive by:

. ELISA from: Wellcome (HIV-ab titre of 3,162) and Genetic Systems

. Western blot with antibody activity demonstrated at molecular weight bands:

p18 (+/-), p24(+), p34(+++), p40(+), gp[41-45](+++), p52(++++), p55(+), p64(+), gp120(+++).

Recalcified plasma was used for the 'BM' dilution series:

. $10^{-3.5}$ dilution -> sample # a/HIV 287/2
sample # a/HIV 287/13 (duplicate)

. $10^{-3.0}$ dilution -> sample # a/HIV 287/8
sample # a/HIV 287/10 (duplicate)

Case 3: a 34 year old male, diagnosed on 21 January 1986 as having AIDS on the basis of chronic perianal herpes simplex infection, was admitted to hospital in February 1987 and died on 22 March 1987 due to CMV induced necrotising myelitis.

Serum collected on 12 March 1987 was reactive for anti-HIV by:

. ELISA from: Abbott-rDNA, Behring, Du Pont, Genetic Systems, Organon-Teknika, Organon-Bionetics, Virgo-ENI, and Wellcome.

. Western blot with antibody activity demonstrated at molecular weight bands:

	NRL	BIORAD	DU PONT
p18	+/-		
p24	+/-	+/-	+/-
p34	++	+	+
gp[41-45]	++		
p53	+/-	+/-	+/-
p55	+/-	+/-	
p68		+/-	
gp110		+	+
gp160		++	

Neat plasma -> sample # a/HIV 287/4.

Case 4: a 19 year old male 'new' donor gave this first donation at the mobile blood collecting unit in the west of Sydney in January 1987. At follow-up he admitted past IV drug use and prostitute contact.

Neat plasma reactions recorded anti-HIV positive by:

. ELISA from: Organon-Teknika, Genetic Systems and Wellcome

. Western blot with antibody activity demonstrated at molecular weight bands:

	NRL	DU PONT
p18	+	+/-
p24	+++	++++
p34	++++	+++
gp[41-45]	++++	++
p53	++	+++
p55	++++	+++
p68	++	++++
gp110/160		++++

Recalcified plasma used for the 'AO' limited dilution series.

. $10^{-2.5}$ dilution -> sample # a/HIV 287/5
sample # a/HIV 287/14 (duplicate)

. $10^{-3.0}$ dilution -> sample # a/HIV 287/7
sample # a/HIV 287/16 (duplicate)

Case 5: a 20 year old male 'new' donor gave this first donation at the Sydney Centre on 14 May 1987. At follow-up he admitted sexual contacts with male and female partners and was assessed clinically as having AIDS related complex (ARC).

Neat plasma reactions recorded anti-HIV positive by:

. ELISA from: Organon-Teknika, Genetic Systems and Wellcome

. Western blot with antibody activity demonstrated at molecular weight bands:

	NRL	DU PONT
p18	+	+/-
p24	+++	++++
p31	+++	+
p34	++++	++++
p35	+++	+
p40	+	+/-
gp[41-45]	++++	++
p53	++++	+++
p55	+	+
p68	++++	++++
gp120/160		+

Recalcified plasma was used for the 'EC' dilution series.

. $10^{-2.5}$ dilution -> sample # a/HIV 287/9

. $10^{-3.0}$ dilution -> sample # a/HIV 287/17

Case 6: a 52 year old long standing, regular, male donor gave this 54th donation at the South Melbourne Blood Bank on 5 September 1987. Neat serum was anti-HIV positive by routine screening with Genetic Systems ELISA (Sample cut off ratio of 2.7). At follow-up the donor gave a history of acute febrile episode with headache, sweats and the development of a rash in the months between February (53rd) and September (54th) donations.

This is a case of 'early' HIV infection with serum showing significant activity against the gag proteins and polypeptides. However cellular immunity still indicates normal immune function with 499 T4-cells/uL and 477 T8-cells/uL and a ratio T4:T8 = 1.05.

He is in normal good health and exhibits no abnormal physical signs or symptoms.

The source of this man's infection has not been established.

The results of retrospective tests performed on serum samples retained from earlier donations are as follows:

DATE BLOOD COLLECTED	SCREENING TEST/KIT	SAMPLE/ CUT-OFF RATIO	REFERENCE LABORATORY	REFERENCE LABORATORIES' RESULTS	
				RIP	WESTERN BLOT
Donations:					
Aug 86	Gen. Sys.	0.1	NRL	ND	Negative
Nov 86	" "	0.2	NRL	ND	Negative
Feb 87	" "	0.2	NRL	ND	Negative
Sep 87	" "	2.7	SRL	ND	p18+/-;p24+++;p440++; gp(41-45)+/-;p55++++
" "	-	-	IMVS	p24+ p120+	p24+++;p55++;gp110++; gp160++
Follow-up serology:					
Oct 87	" "	5.3	SRL	ND	p12+++;p18+++;p24+++; p34++;p40++++; gp(41-45)++;p53+;p55++++; p68+;gp110+
" "	-	-	IMVS	p24+ p120+	p18+;p24+++;p35+;p40+; gp(41-45)+;p35+;p55+++; p68+;gp110++;gp160++

KEY: NRL = National HIV Reference Lab.; SRL = Victorian State Reference Lab; IMVS =Institute of Med. & Vet. Science, Adelaide; ND = Not Done

Neat serum -> sample # a/HIV 287/15.

Case 7: a female donating for the first time at a mobile blood collecting unit in western NSW in September 1987. Neat plasma reactions recorded anti-HIV positive by:

. ELISA from: Du Pont, and

. Western blot performed by NRL (National HIV Reference Laboratory) with antibody activity demonstrated at molecular weight bands:

p18 (+/-), p24 (+/-), p31 (-), p34 (++), p40 (+/-) gp [41-45] (+), p53 (-), p55 (+/-), p68 (+/-), p110 (-), p160 (-).

Medical history indicated that:

. at follow-up 2 weeks following blood donation, the donor recalled experiencing a glandular fever like episode six weeks earlier,
. when reviewed in December 1987, she had experienced:

- weight loss,
- axillary and cervical lympadenopathy with splenomegaly,
- intermittent episodes of oral thrush, and
- grossly reduced numbers of helper T-cells;

. soon after the December review, treatment with AZT was commenced;
. her infection was acquired through heterosexual contact.

Recalcified plasma was used for the 'OR' dilution series.

. $10^{-1.5}$ dilution -> sample # a/HIV 287/18

. $10^{-2.0}$ dilution -> sample # a/HIV 287/19

Case 8: a 27 year old male medical officer working with known AIDS cases for approximately one year, had anti-HIV testing performed to comply with requirements for overseas employment. Neat Serum collected on 3 October 1986 recorded anti-HIV positive by:

. ELISA from: Virgo-ENI and Organon-Teknika

. Western blot performed by NRL with antibody activity demonstrated at molecular weight bands:

p18 (++++), p24 (+), p31 (-), p34 (-), p35 (-), p40 (+/-), gp [41-45] (-), p53 (-), p55 (-), p68 (-), gp110 (-).

(this specimen is currently classified according to NRL Criteria as an indeterminate pattern type 3).

Neat serum -> sample # a/HIV 287/20

Blank Sample:

BTS(Sydney) ELISA diluent:

. 5% human albumin, and
. 0.05% 5-bromo-, 5-nitro-, 1,3 dioxane in 0.15M NaCl.

-> sample # a/HIV 287/12.

RESULTS

One-hundred and seven sets of results were received and analysed in eight (8) Tables and four (4) figures.

A. Base-line (Diluent) Sample - Sample # a/HIV 287/12

- Six sets out of forty readings (6/40) from laboratories using Abbott rDNA score the diluent (sample 287/12) positive.
- Re-examination of the data revealed that some of these positive ODs were much higher than borderline, suggesting contamination of the diluent with one of the strongly positive panel samples.
- The borderline positive ODs for the diluent may also have resulted from inadvertant over-runs of timing for the substrate incubation step.

B. Dilution Series

CASE	DILUTION SERIES	DILUTION	SAMPLES #	TABLE	FIGURE
1	'CH'	$10^{-2.0}$ $10^{-1.5}$	a/HIV 287/1 a/HIV 287/3 (duplicate) a/HIV 287/6 a/HIV 287/11 (duplicate)	1	
2	'BM'	$10^{-3.5}$ $10^{-3.0}$	a/HIV 287/2 a/HIV 287/13 (duplicate) a/HIV 287/8 a/HIV 287/10 (duplicate)	2	1
4	'AO'	$10^{-2.5}$ $10^{-3.0}$	a/HIV 287/5 a/HIV 287/14 (duplicate) a/HIV 287/7 a/HIV 287/16 (duplicate)	3	2
5	'EC'	$10^{-2.5}$ $10^{-3.0}$	a/HIV 287/9 a/HIV 287/17	4	3
7	'OR'	$10^{-1.5}$ $10^{-2.0}$	a/HIV 287/18 a/HIV 287/19	5	4

The dilution series were included in this panel to :-

. examine the dose responsiveness of the assays, and
. determine the lower limit of anti-HIV detection.

* 'CH' dilution series (Table 1)

The data (Table 1) show:

. consensus findings between various test-syste
. comparable mean absorbance values.

* 'BM' dilution series (Table 2 and Figure 1)

The data (Table 2) show that the ant $10^{-3.5}$ and $10^{-3.0}$ dilutions of serum in this 'BM' dilution series was too low for most assays, although:

. 4/39 returns for Abbott rDNA,
. 1/4 returns for the Behring assay, and
. 6/26 returns for the Wellcome assay

scored the $10^{-3.5}$ dilution as positive.

* 'AO' dilution series (Table 3 and Figure 2)

* 'EC' dilution series (Table 4 and Figure 3)

* 'OR' dilution series (Table 5 and Figure 4)

The dilution of the samples comprising the 3 above dilution 'AO', 'EC' and 'OR' were similarly contrived to test LODs and responses.

C. Stages of HIV Infection

CASE	STAGE	SAMPLES #	TABLE
3	'late' HIV infection	a/HIV 287/4	
6	'early' HIV infection	a/HIV 287/15	6
8	'false-positive'	a/HIV 287/20	

The data in **Table 6** show the reactivity of sera from individuals at various stages of HIV infection. The results were tabulated to give a broader measure of the tests' capabilities.

D. Dose Responses

The responsiveness of the assays to small changes in anti-HIV concentration can be visualised in:

- Figure 1 (dose responses data from Table 2)
- Figure 2 (dose responses data from Table 3)
- Figure 3 (dose responses data from Table 4)
- Figure 4 (dose responses data from Table 5)

Clearly, the higher the slope, the greater the inherent sensitivity of the assay. However, assay developers have been forced to sacrifice some sensitivity to minimise the frequency of false-positive readings:-

- ie a cut-off value is adopted aiming at catching the true positive while simultaneously keeping the frequency of border-line false-positives as low as possible;

- therefore some assays with excellent dose response characteristics, have relatively low LOD values because of the conservative cut-off values chosen eg Du Pont, Genetic Systems, and Organon-Teknika (Table 8).

Table 1: Results of samples in 'CH' dilution series

TEST-SYSTEMS		CASE 1				
		DILUTION SERIES 'CH' SAMPLES # A/HIV DILUTION $10^{-2.0}$		DILUTION $10^{-1.5}$		BLANK # a/HIV
		287/1	287/3	287/6	287/11	287/12
ABBOTT-(rDNA)	SAMPLE	+	+	+	+	-
	No. Pos/n	45/45	45/45	45/45	45/45	34/40
Cut-off mean abs ± SD	Mean absorbance	1.937	1.927	1.933	1.957	0.059
= 0.198 ± 0.053	± SD	± 0.175	± 0.034	± 0.233	± 0.168	± 0.093
BEHRING (Competitive Binding Assay)	SAMPLE	+	+	+	+	-
	No. Pos/n	4/4	4/4	4/4	4/4	4/4
Cut-off mean abs ± SD	Mean absorbance	0.121	0.089	0.104	0.104	1.135
= 0.594 ± 0.239	± SD	± 0.081	± 0.034	± 0.016	± 0.123	± 0.345
DU PONT	SAMPLE	+	+	+	+	-
	No. Pos/n	3/3	3/3	3/3	3/3	3/3
Cut-off mean abs ± SD	Mean absorbance	1.266	1/139	1.756	1.660	0.051
= 0.594 ± 0.084	± SD	± 0.522	± 0.291	± 0.256	± 0.281	± 0.033
GENETIC SYSTEMS	SAMPLE	+	+	+	+	-
	No. Pos/n	15/15	15/15	15/15	15/15	11/11
Cut-off mean abs ± SD	Mean absorbance	0.927	0.808	1.318	1.263	0.022
= 0.264 ± 0.012	± SD	± 0.177	± 0.236	± 0.277	± 0.389	± 0.013
ORGANON-TEKNIKA	SAMPLE	+	+	+	+	-
	No. Pos/n	11/11	11/11	11/11	11/11	8/8
Cut-off mean abs ± SD	Mean absorbance	1.0975	1.117	1.315	1.414	0.120
= 0.309 ± 0.092	± SD	± 0.466	± 0.441	± 0.373	± 0.339	± 0.036
ORGANON-BIONETICS	SAMPLE	+	+	+	+	-
	No. Pos/n	2/2	2/2	2/2	2/2	2/2
Cut-off mean abs ± SD	Mean absorbance	0.485	0.450	0.482	0.470	0.068
= 0.213 ± 0.035	± SD	± 0.054	± 0.045	± 0.004	± 0.006	± 0.000
WELLCOME	SAMPLE	+	+	+	+	-
	No. Pos/n	26/27	27/27	25/26	26/27	23/23
Cut-off mean abs ± SD	Mean absorbance	0.160	0.152	0.120	0.129	0.045
= 0.599 ± 0.265	± SD	± 0.080	± 0.064	± 0.091	± 0.109	± 0.281
VIRGO-ENI	SAMPLE	+	+	+	+	-
	No. Pos/n	1	1	1	1	1
Cut-off absorbance	Mean absorbance	0.796	0.688	1.157	1.183	0.011
= 0.117						

Table 2: Results of samples in 'BM' dilution series

TEST-SYSTEMS		CASE 2				
		DILUTION SERIES 'BM' SAMPLES # A/HIV DILUTION $10^{-3.5}$		DILUTION $10^{-3.0}$		BLANK # a/HIV
		287/2	287/13	287/8	287/10	287/12
ABBOTT-(rDNA)	SAMPLE	-	-	+	+	-
	No. Pos/n	30/39	36/39	45/45	45/45	34/40
Cut-off mean abs ± SD	Mean absorbance	0.161	0.148	0.397	0.392	0.059
= 0.198 ± 0.053	± SD	± 0.061	± 0.036	± 0.097	± 0.104	± 0.093
BEHRING	SAMPLE	+	+	+	(*)	-
(Competitive Binding Assay)	No. Pos/n	4/4	3/4	3/4	2/4	4/4
Cut-off mean abs ± SD	Mean absorbance	0.759	0.751	0.529	0.651	1.135
= 0.594 ± 0.239	± SD	± 0.175	± 0.217	± 0.118	± 0.203	± 0.345
DU PONT	SAMPLE	+	+	+	+	-
	No. Pos/n	3/3	3/3	3/3	3/3	3/3
Cut-off mean abs ± SD	Mean absorbance	0.051	0.087	0.185	0.146	0.051
= 0.594 ± 0.084	± SD	± 0.034	± 0.036	± 0.051	± 0.073	± 0.033
GENETIC SYSTEMS	SAMPLE	+	+	+	+	-
	No. Pos/n	11/11	11/11	12/12	12/12	11/11
Cut-off mean abs ± SD	Mean absorbance	0.053	0.040	0.089	0.091	0.022
= 0.264 ± 0.012	± SD	± 0.034	± 0.013	± 0.022	± 0.028	± 0.013
ORGANON-TEKNIKA	SAMPLE	+	+	+	+	-
	No. Pos/n	9/9	9/9	9/10	10/10	8/8
Cut-off mean abs ± SD	Mean absorbance	0.120	0.120	0.209	0.192	0.084
= 0.309 ± 0.092	± SD	± 0.053	± 0.50	± 0.087	± 0.078	± 0.036
ORGANON-BIONETICS	SAMPLE	+	+	+	+	-
	No. Pos/n	2/2	2/2	2/2	2/2	2/2
Cut-off mean abs ± SD	Mean absorbance	0.135	0.138	0.257	0.220	0.068
= 0.213 ± 0.035	± SD	± 0.009	± 0.000	± 0.060	± 0.010	± 0.000
WELLCOME	SAMPLE	+	+	+	+	-
	No. Pos/n	26/27	27/27	25/26	26/27	23/23
Cut-off mean abs ± SD	Mean absorbance	0.160	0.152	0.120	0.129	0.045
= 0.599 ± 0.265	± SD	± 0.080	± 0.064	± 0.091	± 0.109	± 0.281
VIRGO-ENI	SAMPLE	+	+	+	+	-
	No. Pos/n	1	1	1	1	1
Cut-off absorbance	Mean absorbance	0.796	0.688	1.157	1.183	0.011
= 0.117						

(*) Equivocal result

Figure 1: Dilution Series "BM"

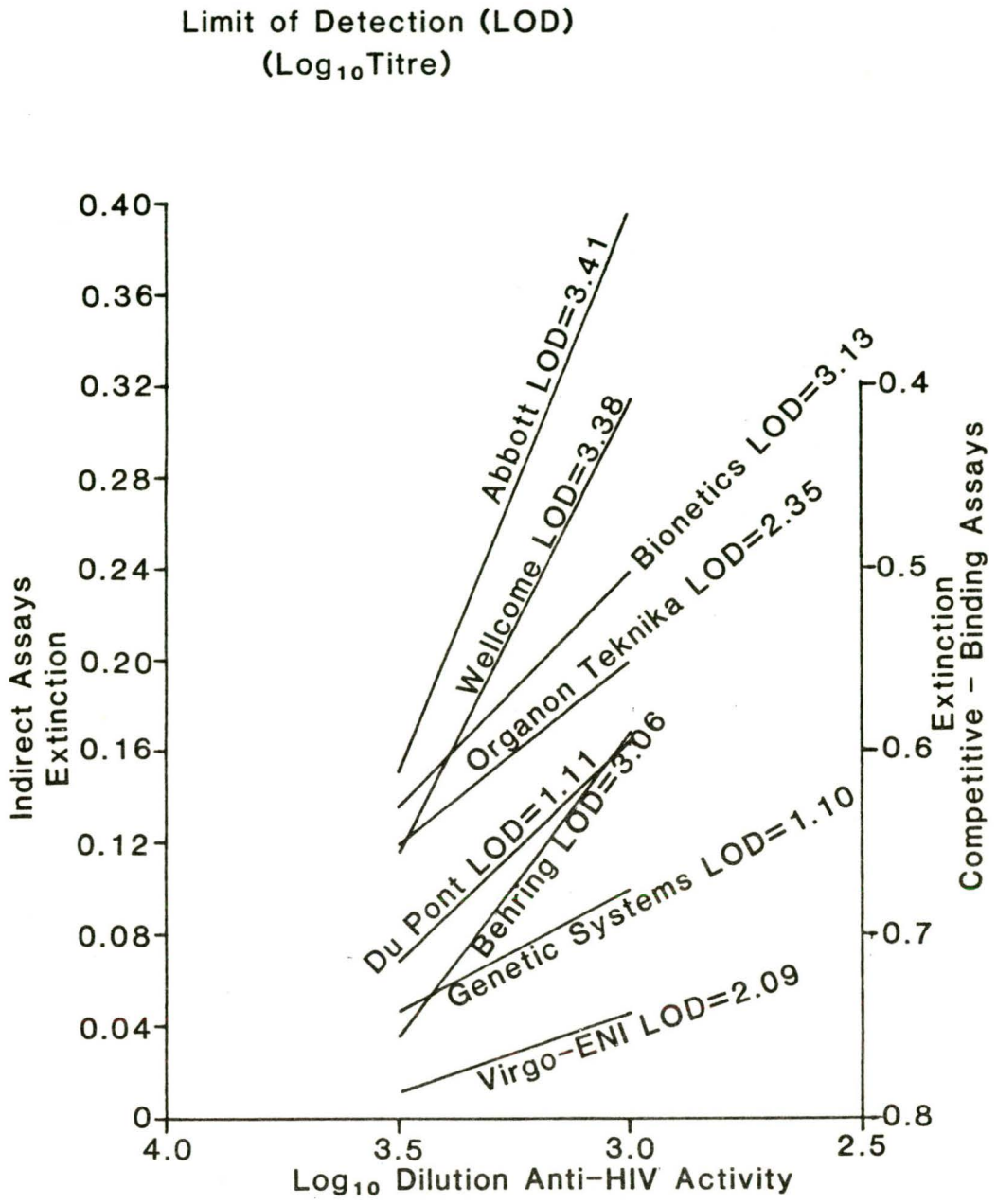

Table 3: Results of samples in 'AO' dilution series

TEST-SYSTEMS		CASE 4				
		DILUTION SERIES 'AO'				
		SAMPLES # A/HIV DILUTION $10^{-3.0}$		DILUTION $10^{-2.5}$		BLANK # a/HIV
		287/7	287/16	287/5	287/14	287/12
ABBOTT-(rDNA)	SAMPLE	+	+	+	+	-
	No. Pos/n	45/45	44/44	45/45	45/45	34/40
Cut-off mean abs ± SD	Mean absorbance	0.572	0.577	1.170	1.142	0.059
= 0.198 ± 0.053	± SD	± 0.123	± 0.126	± 0.272	± 0.283	± 0.093
BEHRING (Competitive Binding Assay)	SAMPLE	-	-	+	+	-
	No. Pos/n	4/4	4/4	4/4	4/4	4/4
Cut-off mean abs ± SD	Mean absorbance	0.770	0.826	0.549	0.420	1.135
= 0.594 ± 0.239	± SD	± 0.202	± 0.200	± 0.182	± 0.108	± 0.345
DU PONT	SAMPLE	-	-	-	-	-
	No. Pos/n	3/3	3/3	3/3	3/3	3/3
Cut-off mean abs ± SD	Mean absorbance	0.132	0.126	0.238	0.375	0.051
= 0.594 ± 0.084	± SD	± 0.040	± 0.042	± 0.134	± 0.108	± 0.033
GENETIC SYSTEMS	SAMPLE	-	-	-	-	-
	No. Pos/n	11/11	11/11	12/12	12/12	11/11
Cut-off mean abs ± SD	Mean absorbance	0.070	0.075	0.155	0.167	0.022
= 0.264 ± 0.012	± SD	± 0.015	± 0.024	± 0.032	± 0.041	± 0.013
ORGANON-TEKNIKA	SAMPLE	-	-	-	-	-
	No. Pos/n	8/10	9/9	7/10	7/11	8/8
Cut-off mean abs ± SD	Mean absorbance	0.188	0.150	0.333	0.299	0.084
= 0.309 ± 0.092	± SD	± 0.118	± 0.067	± 0.232	± 0.092	± 0.036
ORGANON-BIONETICS	SAMPLE	-	-	-	+	-
	No. Pos/n	2/2	2/2	2/2	2/2	2/2
Cut-off mean abs ± SD	Mean absorbance	0.135	0.138	0.257	0.220	0.068
= 0.213 ± 0.035	± SD	± 0.009	± 0.000	± 0.060	± 0.010	± 0.000
WELLCOME	SAMPLE	-	-	+	+	-
	No. Pos/n	20/26	18/24	23/27	24/27	23/23
Cut-off mean abs ± SD	Mean absorbance	0.651	0.695	0.454	0.448	0.045
= 0.599 ± 0.265	± SD	± 0.274	± 0.259	± 0.200	± 0.163	± 0.281
VIRGO-ENI	SAMPLE	-	-	-	-	-
	No. Pos/n	1	1	1	1	1
Cut-off absorbance = 0.117	Mean absorbance	0.027	0.027	0.095	0.083	0.011

Figure 2: Dilution Series "AO"

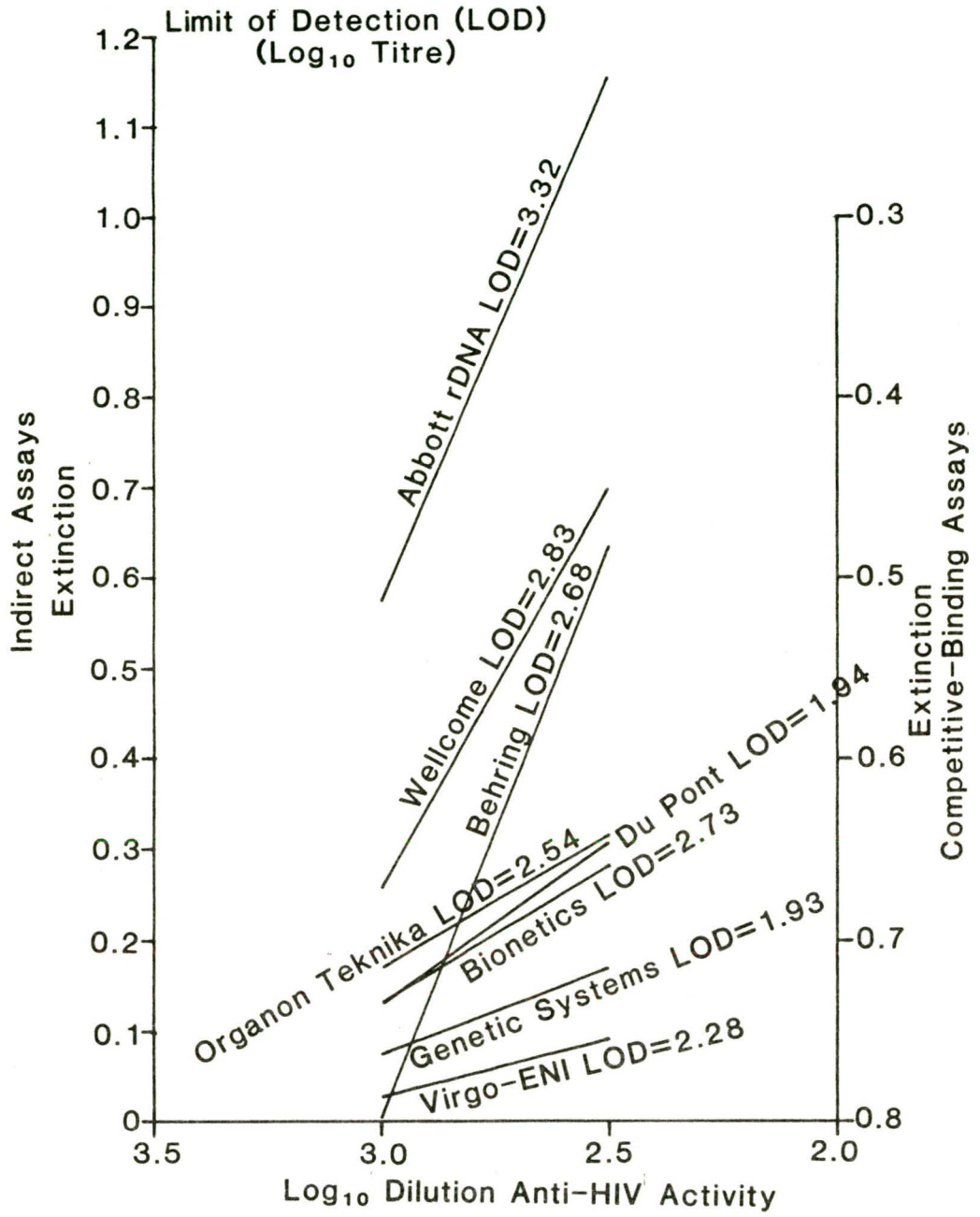

Table 4: Results of samples in 'EC' dilution series

TEST-SYSTEMS		CASE 5		
		DILUTION SERIES 'EC'		
		SAMPLES # A/HIV		BLANK
		DILUTION $10^{-3.0}$	DILUTION $10^{-2.5}$	# a/HIV
		287/17	287/9	287/12
ABBOTT-(rDNA)	SAMPLE	+	+	-
	No. Pos/n	44/45	45/45	34/40
Cut-off mean abs ± SD	Mean absorbance	0.777	1.410	0.059
= 0.198 ± 0.053	± SD	± 0.209	± 0.372	± 0.093
BEHRING	SAMPLE	-	+	-
(Competitive Binding Assay)	No. Pos/n	3/4	4/4	4/4
Cut-off mean abs ± SD	Mean absorbance	0.657	0.360	1.135
= 0.594 ± 0.239	± SD	± 0.140	± 0.039	± 0.345
DU PONT	SAMPLE	-	-	-
	No. Pos/n	3/3	2/3	3/3
Cut-off mean abs ± SD	Mean absorbance	0.145	0.508	0.051
= 0.594 ± 0.084	± SD	± 0.100	± 0.208	± 0.033
GENETIC SYSTEMS	SAMPLE	-	+	-
	No. Pos/n	11/11	7/13	11/11
Cut-off mean abs ± SD	Mean absorbance	0.103	0.257	0.022
= 0.264 ± 0.012	± SD	± 0.035	± 0.072	± 0.013
ORGANON-TEKNIKA	SAMPLE	-	+	-
	No. Pos/n	9/10	8/11	8/8
Cut-off mean abs ± SD	Mean absorbance	0.193	0.396	0.084
= 0.309 ± 0.092	± SD	± 0.092	± 0.396	± 0.036
ORGANON-BIONETICS	SAMPLE	+	+	-
	No. Pos/n	2/2	2/2	2/2
Cut-off mean abs ± SD	Mean absorbance	0.225	0.352	0.068
= 0.213 ± 0.035	± SD	± 0.005	± 0.013	± 0.000
WELLCOME	SAMPLE	-	-	+
	No. Pos/n	19/25	26/27	23/23
Cut-off mean abs ± SD	Mean absorbance	0.651	0.411	0.045
= 0.599 ± 0.265	± SD	± 0.224	± 0.145	± 0.281
VIRGO-ENI	SAMPLE	-	+	-
	No. Pos/n	1	1	1
Cut-off absorbance	Mean absorbance	0.053	0.154	0.011
= 0.117				

Figure 3: Dilution Series "EC"

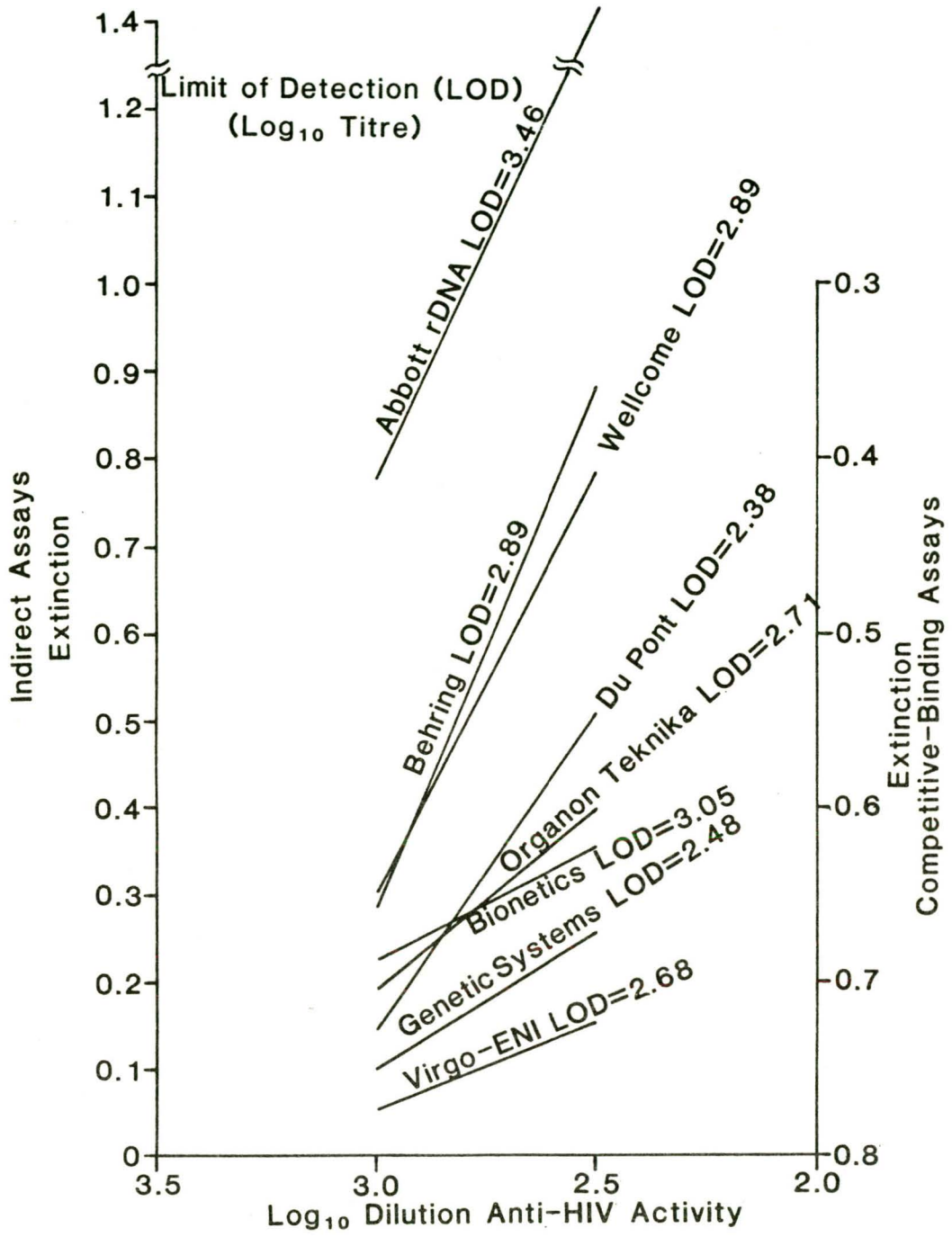

Table 5: Results of samples in 'OR' dilution series

TEST-SYSTEMS		CASE 7		
		DILUTION SERIES 'OR'		
		SAMPLES # A/HIV DILUTION $10^{-2.0}$	SAMPLES # A/HIV DILUTION $10^{-1.5}$	BLANK # a/HIV
		287/17	287/9	287/12
ABBOTT-(rDNA)	SAMPLE	+	+	-
	No. Pos/n	44/44	45/45	34/40
Cut-off mean abs ± SD	Mean absorbance	0.772	1.354	0.059
= 0.198 ± 0.053	± SD	± 0.186	± 0.286	± 0.093
BEHRING	SAMPLE	-	+	-
(Competitive Binding Assay)	No. Pos/n	4/4	4/4	4/4
Cut-off mean abs ± SD	Mean absorbance	0.704	0.612	1.135
= 0.594 ± 0.239	± SD	± 0.200	± 0.242	± 0.345
DU PONT	SAMPLE	-	-	-
	No. Pos/n	3/3	2/3	3/3
Cut-off mean abs ± SD	Mean absorbance	0.241	0.361	0.051
= 0.594 ± 0.084	± SD	± 0.133	± 0.197	± 0.033
GENETIC SYSTEMS	SAMPLE	-	+	-
	No. Pos/n	11/11	7/13	11/11
Cut-off mean abs ± SD	Mean absorbance	0.108	0.271	0.022
= 0.264 ± 0.012	± SD	± 0.034	± 0.089	± 0.013
ORGANON-TEKNIKA	SAMPLE	-	-	-
	No. Pos/n	8/9	6/10	8/8
Cut-off mean abs ± SD	Mean absorbance	0.211	0.271	0.084
= 0.309 ± 0.092	± SD	± 0.206	± 0.084	± 0.036
ORGANON-BIONETICS	SAMPLE	-	+	-
	No. Pos/n	2/2	2/2	2/2
Cut-off mean abs ± SD	Mean absorbance	0.177	0.312	0.068
= 0.213 ± 0.035	± SD	± 0.007	± 0.013	± 0.000
WELLCOME	SAMPLE	-	+	-
	No. Pos/n	22/27	22/27	23/23
Cut-off mean abs ± SD	Mean absorbance	0.745	0.507	0.045
= 0.599 ± 0.265	± SD	± 0.274	± 0.180	± 0.281
VIRGO-ENI	SAMPLE	-	+	-
	No. Pos/n	1	1	1
Cut-off absorbance	Mean absorbance	0.044	0.119	0.011
= 0.117				

Figure 4: Dilution Series "OR"

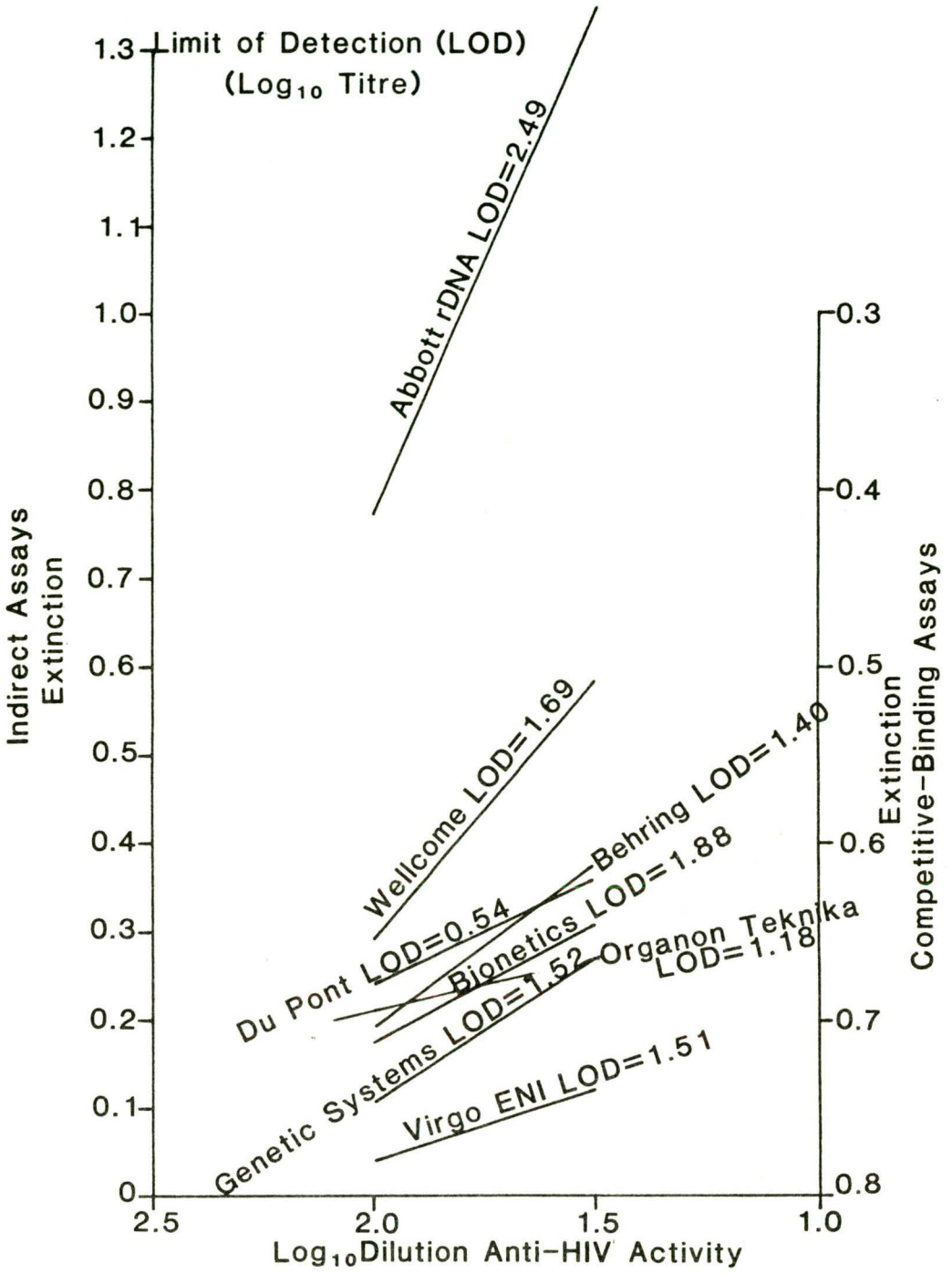

Table 6: Results of samples 'late', 'early' and 'false positive' HIV infection

TEST-SYSTEMS		CASE 3	CASE 6	CASE 8	
		'LATE' HIV INFECTION	'EARLY' HIV INFECTION	'FALSE-POSITIVE'	
		# a/HIV	# a/HIV	# a/HIV	BLANK # a/HIV
		287/4	287/15	287/20	287/12
ABBOTT-(rDNA)	SAMPLE	+	+	-	-
	No. Pos/n	45/45	45/45	45/45	34/40
Cut-off mean abs + SD	Mean absorbance	1.849	1.409	0.090	0.059
= 0.198 ± 0.053	± SD	± 0.280	± 0.370	± 0.028	± 0.093
BEHRING (Competitive Binding Assay)	SAMPLE	+	+	-	-
	No. Pos/n	4/4	4/4	4/4	4/4
Cut-off mean abs + SD	Mean absorbance	0.101	0.427	1.075	1.135
= 0.594 ± 0.239	± SD	± 0.055	± 0.230	± 0.325	± 0.345
DU PONT	SAMPLE	+	+	+	-
	No. Pos/n	3/3	3/3	3/3	3/3
Cut-off mean abs + SD	Mean absorbance	1.533	1.673	1.556	0.051
= 0.594 ± 0.084	± SD	± 0.180	± 0.250	± 0.627	± 0.033
GENETIC SYSTEMS	SAMPLE	+	+	+	-
	No. Pos/n	15/15	15/15	9/14	11/11
Cut-off mean abs + SD	Mean absorbance	1.150	0.931	0.317	0.022
= 0.264 ± 0.012	± SD	± 0.320	± 0.206	± 0.112	± 0.013
ORGANON-TEKNIKA	SAMPLE	+	+	-	-
	No. Pos/n	11/11	8/11	9/9	8/8
Cut-off mean abs + SD	Mean absorbance	1.361	0.449	0.101	0.084
= 0.309 ± 0.092	± SD	± 0.357	± 0.277	± 0.023	± 0.036
ORGANON-BIONETICS	SAMPLE	+	+		-
	No. Pos/n	2/2	2/2	2/2	2/2
Cut-off mean abs + SD	Mean absorbance	0.511	0.345	0.092	0.068
= 0.213 ± 0.035	± SD	± 0.033	± 0.015	± 0.000	± 0.000
WELLCOME	SAMPLE	+	+	+	-
	No. Pos/n	26/27	27/27	23/23	23/23
Cut-off mean abs + SD	Mean absorbance	0.135	0.354	0.898	0.045
= 0.599 ± 0.265	± SD	± 0.080	± 0.127	± 0.301	± 0.281
VIRGO-ENI	SAMPLE	+	+	+	-
	No. Pos/n	1	1	1	1
Cut-off absorbance	Mean absorbance	1.138	0.222	0.143	0.011
= 0.117					

D. Limit of Detection (Table 7 and Table 8)

Table 7 shows significant differences between assays within each dilution series by summarising dose response data from Tables 2,3,4 and 5. Each assay's relative limit of anti-HIV detection (LOD) for each dilution series was interpolated or extrapolated as necessary from the linear regression plots of the above dose response data using the mean of participants' cut-off ODs.

Table 7: Comparison of seven assays' limits of anti-HIV detection (LOD)* for four sera in dilution series. (The LODs were interpolated from dose-response plots of dilution-series data shown in figures 1 to 4)

TEST-SYSTEMS	LODs FOR DILUTION SERIES "BM"	LODs FOR DILUTION SERIES "EC"	LODs FOR DILUTION SERIES "AO"	LODs FOR DILUTION SERIES "OR"
ABBOTT-(rDNA)	3.41	3.46	3.32	2.49
BEHRING (Competitive Binding Assay)	3.06	2.89	2.68	1.40
DU PONT	1.11	2.38	1.94	0.54
GENETIC SYSTEMS	1.10	2.48	1.93	1.52
ORGANON-TEKNIKA	2.35	2.71	2.54	1.18
ORGANON-BIONETICS	3.13	3.04	2.73	1.88
VIRGO ENI	2.09	2.68	2.28	1.51
WELLCOME (Competitive Binding Assay)	3.38	2.89	2.83	1.69

* LOD = Limit of anti-HIV Detection expressed Log_{10} titre.

NOTE: Comparisons can only be made within each dilution series.

Table 8 summarised this same data but with the test-systems arranged in decending order of LOD. It is apparent that there can be up to 1 and 2 orders (LODs are actually Log values) of magnitude difference in LODs between assays within a dilution series:

- the hierarchical order varies widely between dilution series since hierarchical rearrangement are no doubt due to the interaction between the many factors (inherent and unique) in assay systems and test-sera alike;

- obviously, the dilution series sera contain different spectra of polyclonal antibodies (specificities, binding constants, and concentrations) against HIV protein antigens;

- this complexity is then superimposed upon the inherent differences between tests with respect to the spectra and relative concentrations of viral proteins and polypeptides coated on the solid phase plus the differences in affinities and anti-immunoglobulin class specificities of the tracer/conjugates used in the indirect assays.

- Moreover, the mouse monoclonal "cocktails" and human polyclonal anti-HIV tracer/conjugates used in the competitive-binding assays are no less complex.

In general,

- the assays with the highest LODs were those with the highest dose-responsiveness, however some assays achieved higher LODs than others with similar dose-response characteristics by virtue of having selected lower cut-off values, eg Organon-Bionetics and Virgo-ENI;

- some had lower LODs than other similarly responsive assays because of the choice of higher, more conservative cut-off values, eg Du Pont, Genetic Systems and Organon-Teknika;

- some test manufacturers strive for the difficult optimum of high LOD values while minimising the numbers of 'borderline' or 'grey-zone' samples;

- assays with relatively low dose-responsiveness generally have to elevate their cut-off values to avoid the 'borderline' and 'grey-zone' problem, which in turn compromises their LOD.

Table 8: Ranking of seven assays in decreasing order of limits of anti-HIV detection (LOD) for four dilution series.

RANKED LODs FOR DILUTION SERIES "BM"	RANKED LODs FOR DILUTION SERIES "EC"	RANKED LODs FOR DILUTION SERIES "AO"	RANKED LODs FOR DILUTION SERIES "OR"
ABBOTT 3.41	ABBOTT 3.46	ABBOTT 3.32	ABBOTT 2.49
WELLCOME 3.38	ORGANON-BIONETICS 3.04	WELLCOME 2.83	ORGANON-BIONETICS 1.88
ORGANON-BIONETICS 3.13	WELLCOME & BEHRING 2.89	ORGANON-BIONETICS 2.73	WELLCOME 1.69
BEHRING 3.06	ORGANON-TEKNIKA 2.71	BEHRING 2.68	GENETIC SYSTEMS 1.52
ORGANON-TEKNIKA 2.35	VIRGO-ENI 2.68	ORGANON-TEKNIKA 2.54	VIRGO-ENI 1.51
VIRGO-ENI 2.09	GENETIC SYSTEMS 2.48	VIRGO-ENI 2.28	BEHRING 1.40
DU PONT 1.11	DU PONT 2.38	DU PONT 1.94	ORGANON-TEKNIKA 1.88
GENETIC SYSTEMS 1.10	-	GENETIC SYSTEMS 1.93	DU PONT 0.54

NOTIFIABLE DISEASES REPORTED IN AUSTRALIA

Notifiable disease figures for 1-1-87 to 31-12-87 Bulletin 88/12.....

Disease	N.S.W.	VIC.	QLD.	S.A.	W.A.	TAS.	N.T.	A.C.T.	TOTAL
Amoebiasis	12	3	15	17	3		1	7	58
Ankylostomiasis	1		1	34	21		NN		57
Anthrax	1								1
Arbovirus infection	84	3	996	2	NN				1085
Brucellosis	3		7	1				1	12
Campylobacter infections	1441		NN	1167	224	NN	87	4	2923
Chancroid			1	NN	3				4
Cholera									
Congenital rubella syndrome	1		2			NN		NN	3
Diphtheria	1						31		32
Donovanosis			46	NN	60		42		148
Giardiasis	390		NN	887	231	NN	NN	NN	1508
Genital herpes	962	549	454	344	NN	NN	21	29	2359
Gonococcal ophthalmia neonatorum	2	NN		1	NN	NN	2	NN	5
Gonorrhoea	875	633	999	546	1078	44	764	40	4979
Hepatitis A (infectious)	180	72	82	145	137	9	86	4	715
Hepatitis B (serum)	417	276	350	76	408	18	32	28	1605
Hepatitis — unspecified	43		64	15	NN	NN	8	1	131
Hydatid disease	8	1	1	3	1	3			17
Lassa fever			NN			NN		NN	
Legionnaires disease	82	7	NN	3	4	NN		NN	96
Leprosy	10	3	2		7		8	1	31
Leptospirosis	19	25	69	4	6	10			133
Lymphogranuloma venereum				NN	NN	NN		NN	
Marburg disease			NN			NN		NN	
Malaria	89	95	268	45	23	4	23	27	574
Meningococcal infections	23	17	5	17	31	NN	3		96

Disease	N.S.W.	VIC.	QLD.	S.A.	W.A.	TAS.	N.T.	A.C.T.	TOTAL
Non-specific urethritis	3706	3079	44	554	NN	NN	1	NN	7384
Ornithosis		2		8	1	2			13
Pertussis (whooping cough)	43	21	NN	61	148	NN	17	1	291
Plague									
Poliomyelitis									
Q. fever	150	3	179	18	4		1		355
Rabies				NN		NN		NN	
Salmonella infections	835	116	666	342	342	160	251	27	2739
Shigella infections	109	29	82	61	127	2	176		586
Smallpox									
Syphilis	1271	90	570	102	262	2	880	13	3190
Tetanus	1		2	1	1				5
Trachoma		NN	1	62	211	NN	NN		274
Tuberculosis (all forms)		247	176	75	117	17	34	20	686
Typhoid fever	21	12	3	2	2	3	1	3	47
Typhus (all forms)	2		6			1			9
V. parahaemolyticus infections	6		NN			NN		NN	6
Yellow fever									
Yersinia infections	111		NN	10		NN	1	NN	122

NN - Not Notifiable

(Note: Data collected under the Notifiable Diseases Returns may bear little or no correlation to that collected under the CDI laboratory scheme. Whilst the latter is a sampling program, the Notifiable Diseases data is dependent upon voluntary reporting by medical practitioners etc.)

AUSTRALIA - COMMUNICABLE DISEASES INTELLIGENCE

TOTAL VIRAL ISOLATIONS BASED ON DATE OF REPORTING
PERIOD - FORTNIGHTLY
VIRAL IDENTIFICATIONS FROM CONTRIBUTING LABORATORIES.

Period 1-6-88 to 14-6-88.

1. CODE 019 - FAIRFIELD(VIC)
2. CODE 065 - STATE LAB(WA)
3. CODE 110 - IMVS(SA)
4. CODE 111 - RCH(VIC)
5. CODE 112 - ICPMR(NSW) WVH(ACT)
6. CODE 113 - PHH PON(NSW)
7. CODE 114 - RAHC(NSW)
8. CODE 115 - STATE LAB(QLD)

		019	065	110	111	112	113	114	115	TOTAL
0100	ADENOVIRUS NOT TYPED	1	2	2	6	1	2	1	8	23
0101	ADENOVIRUS TYPE 1	0	0	3	0	0	0	0	0	3
0102	ADENOVIRUS TYPE 2	0	1	1	1	0	0	0	0	3
0103	ADENOVIRUS TYPE 3	2	0	1	1	0	0	0	0	4
0104	ADENOVIRUS TYPE 4	1	0	1	0	0	0	0	0	2
0105	ADENOVIRUS TYPE 5	0	0	1	0	0	0	0	0	1
0108	ADENOVIRUS TYPE 8	0	0	0	0	0	2	0	0	2
0135	ADENOVIRUS TYPE 35	1	0	0	0	0	0	0	0	1
0199	ADENOVIRUS TYPING PENDING	0	0	0	3	0	0	0	0	3
0201	INFLUENZA A VIRUS	0	5	1	0	0	0	0	1	7
0203	INFLUENZA B VIRUS	0	0	2	0	0	0	0	0	2
0301	PARAINFLUENZA VIRUS TYPE 1	7	6	2	23	0	0	3	3	44
0302	PARAINFLUENZA VIRUS TYPE 2	1	0	0	11	0	0	0	0	12
0303	PARAINFLUENZA VIRUS TYPE 3	3	0	5	2	0	0	0	0	10
0399	PARAINFLUENZA VIRUS TYPING PEN	0	0	0	3	0	0	0	0	3
0400	RESPIRATORY SYNCYTIAL VIRUS (R	3	4	18	20	0	5	30	48	128
0500	RHINOVIRUS (ALL TYPES)	5	1	1	9	0	0	0	4	20
0600	MYCOPLASMA PNEUMONIAE	2	3	2	4	1	0	0	2	14
0700	ORNITHOSIS-PSITTACOSIS	1	0	1	0	1	0	0	0	3
0809	COXSACKIEVIRUS A9	5	0	0	9	0	0	0	0	14
0816	COXSACKIEVIRUS A16	1	0	0	0	0	0	0	0	1
0824	COXSACKIEVIRUS A24 = ECHOVIRUS	1	0	0	0	0	0	0	0	1
0901	COXSACKIEVIRUS B1	0	0	0	1	0	0	1	0	2
0902	COXSACKIEVIRUS B2	0	1	1	1	0	0	0	0	3
0905	COXSACKIEVIRUS B5	4	0	1	4	0	0	0	0	9
1004	ECHOVIRUS TYPE 4	3	0	0	0	0	0	0	0	3
1006	ECHOVIRUS TYPE 6	0	1	0	0	0	0	0	0	1
1012	ECHOVIRUS TYPE 12	0	1	0	0	0	0	0	0	1
1027	ECHOVIRUS TYPE 27	0	0	0	2	0	0	0	0	2
1100	POLIOVIRUS NOT TYPED	0	0	0	4	0	2	0	0	6
1101	POLIOVIRUS TYPE 1	1	1	0	0	0	0	0	0	2
1102	POLIOVIRUS TYPE 2	0	1	1	0	0	0	0	0	2
1103	POLIOVIRUS TYPE 3	0	1	0	0	0	0	0	0	1
1200	MUMPS VIRUS	1	0	0	0	1	0	0	0	2
1300	HERPES VIRUS GROUP - NOT TYPED	1	3	1	0	0	0	0	1	6
1301	HERPES SIMPLEX VIRUS - NOT TYP	0	1	0	0	0	0	0	1	2
1302	EPSTEIN-BARR VIRUS (EB VIRUS)	3	5	2	0	1	0	0	3	14
1303	VARICELLA-ZOSTER VIRUS	1	3	0	0	0	0	0	0	4
1306	HERPES SIMPLEX TYPE 1	33	11	19	0	0	0	0	31	94
1307	HERPES SIMPLEX TYPE 2	72	51	20	0	0	0	0	56	199
1399	HERPES VIRUS TYPING PENDING	0	0	0	2	0	0	0	0	2
1401	COXIELLA BURNETI	1	0	2	0	0	0	0	6	9
1502	PICORNIA VIRUS - NOT TYPED = E	0	0	0	0	0	11	0	12	23
1521	MEASLES VIRUS	2	0	0	0	0	0	0	0	2
1522	RUBELLA VIRUS	1	0	1	1	1	0	0	2	6
1532	HEPATITIS B ANTIGEN	19	19	9	0	0	6	2	2	57
1535	HEPATITIS A ANTIBODY	4	17	2	0	0	0	2	0	25
1541	CHLAMYDIA A - C. TRACHOMATIS	6	11	25	0	1	0	0	27	70
1556	CMV - CYTOMEGALOVIRUS	17	6	8	7	0	2	0	11	51
1564	ROTAVIRUS	1	12	17	9	0	0	0	8	47
1599	ENTEROVIRUS TYPING PENDING	0	0	0	9	0	11	0	0	20
9992	ROSS RIVER VIRUS	1	0	0	0	0	4	0	11	16
9994	SMALL VIRUS (LIKE) PARTICLE	0	0	0	0	0	0	1	0	1
9998	ARBO. GROUP B. (UNSPECIFIED)	2	1	0	0	0	0	0	0	3
TOTAL		207	168	150	132	7	45	40	237	986

AUSTRALIA - COMMUNICABLE DISEASES INTELLIGENCE

VIRAL IDENTIFICATIONS BY CLINICAL INFORMATION TABLE 1.

Period 1-6-88 to 14-6-88.

1. CODE 00, 99 ..... - NO ILL OR DATA
2. CODE 01, 02, 11, 12 - RESPIRATORY
3. CODE E3 ..... - ENCEPHALITIS
4. CODE M3 ..... - MENINGITIS
5. CODE 04 ..... - PARALYSIS
6. CODE 05, 13 ..... - CNS OTHER UNSPEC
7. CODE 07, 49 - GASTRO INTESTINAL
8. CODE 17, 47 - HEPATIC
9. CODE 19 ... - CVS
10. CODE 89 ... - URINARY TRACCT
11. CODE 06 ... - SKIN MUCOUS

		1	2	3	4	6	7	8	10	11	TOTAL
0100	ADENOVIRUS NOT TYPED	1	10	0	0	0	10	0	0	0	21
0101	ADENOVIRUS TYPE 1	0	3	0	0	0	0	0	0	0	3
0102	ADENOVIRUS TYPE 2	0	3	0	0	0	0	0	0	0	3
0103	ADENOVIRUS TYPE 3	0	1	0	0	0	0	0	0	0	1
0105	ADENOVIRUS TYPE 5	0	1	0	0	0	0	0	0	0	1
0199	ADENOVIRUS TYPING PENDING	0	1	0	0	0	1	0	0	0	2
0201	INFLUENZA A VIRUS	0	7	0	0	0	0	0	0	0	7
0203	INFLUENZA B VIRUS	0	1	0	0	0	0	0	0	0	1
0301	PARAINFLUENZA VIRUS TYPE 1	0	44	0	0	0	0	0	0	0	44
0302	PARAINFLUENZA VIRUS TYPE 2	0	12	0	0	0	0	0	0	0	12
0303	PARAINFLUENZA VIRUS TYPE 3	0	9	0	0	0	0	0	0	0	9
0399	PARAINFLUENZA VIRUS TYPING PEN	0	3	0	0	0	0	0	0	0	3
0400	RESPIRATORY SYNCYTIAL VIRUS (R	1	126	0	0	0	0	0	0	0	127
0500	RHINOVIRUS (ALL TYPES)	0	17	1	0	0	0	0	0	0	18
0600	MYCOPLASMA PNEUMONIAE	1	12	0	0	0	0	0	0	0	13
0700	ORNITHOSIS-PSITTACOSIS	0	3	0	0	0	0	0	0	0	3
0809	COXSACKIEVIRUS A9	1	5	0	7	0	0	0	0	0	13
0816	COXSACKIEVIRUS A16	0	0	0	0	0	0	0	0	1	1
0901	COXSACKIEVIRUS B1	0	1	0	1	0	0	0	0	0	2
0902	COXSACKIEVIRUS B2	0	0	1	0	0	2	0	0	0	3
0905	COXSACKIEVIRUS B5	0	3	0	2	0	0	0	0	0	5
1004	ECHOVIRUS TYPE 4	0	0	0	3	0	0	0	0	0	3
1006	ECHOVIRUS TYPE 6	0	0	0	0	0	1	0	0	0	1
1012	ECHOVIRUS TYPE 12	0	1	0	0	0	0	0	0	0	1
1027	ECHOVIRUS TYPE 27	0	0	0	0	1	0	0	0	0	1
1100	POLIOVIRUS NOT TYPED	0	2	0	0	0	2	0	0	0	4
1101	POLIOVIRUS TYPE 1	0	0	0	0	0	1	0	0	0	1
1102	POLIOVIRUS TYPE 2	0	0	0	0	0	1	0	0	0	1
1103	POLIOVIRUS TYPE 3	0	0	0	0	0	1	0	0	0	1
1200	MUMPS VIRUS	1	0	0	1	0	0	0	0	0	2
1300	HERPES VIRUS GROUP - NOT TYPED	0	0	0	0	0	0	0	0	4	4
1301	HERPES SIMPLEX VIRUS - NOT TYP	0	0	0	0	0	0	0	0	1	1
1302	EPSTEIN-BARR VIRUS (EB VIRUS)	3	1	0	0	0	0	1	0	0	5
1303	VARICELLA-ZOSTER VIRUS	1	0	0	0	0	0	0	0	2	3
1306	HERPES SIMPLEX TYPE 1	1	13	0	0	0	0	0	1	41	56
1307	HERPES SIMPLEX TYPE 2	2	1	0	0	0	0	0	0	48	51
1399	HERPES VIRUS TYPING PENDING	0	0	0	0	0	0	0	0	1	1
1401	COXIELLA BURNETI	0	1	0	0	0	0	0	0	0	1
1502	PICORNIA VIRUS - NOT TYPED = E	0	5	0	0	2	15	0	0	1	23
1521	MEASLES VIRUS	0	0	0	0	0	0	0	0	2	2
1522	RUBELLA VIRUS	2	0	0	0	0	0	0	0	1	3
1532	HEPATITIS B ANTIGEN	38	0	0	0	0	0	13	0	0	51
1535	HEPATITIS A ANTIBODY	5	0	0	0	0	1	18	0	0	24
1541	CHLAMYDIA A - C. TRACHOMATIS	1	0	0	0	0	0	0	0	1	2
1556	CMV - CYTOMEGALOVIRUS	2	19	0	0	0	2	1	2	0	26
1564	ROTAVIRUS	0	0	0	0	0	47	0	0	0	47
1599	ENTEROVIRUS TYPING PENDING	0	4	0	6	0	6	0	0	0	16
9992	ROSS RIVER VIRUS	1	0	0	0	0	0	0	0	2	3
9994	SMALL VIRUS (LIKE) PARTICLE	0	0	0	0	0	1	0	0	0	1
9998	ARBO. GROUP B. (UNSPECIFIED)	0	0	1	1	0	0	0	0	0	2
TOTAL		61	309	3	21	3	91	33	3	105	629

AUSTRALIA - COMMUNICABLE DISEASES INTELLIGENCE

VIRAL IDENTIFICATIONS BY CLINICAL INFORMATION TABLE 2.

Period 1-6-88 to 14-6-88.

12. CODE 10 - EYE
13. CODE 59 - GENITAL
14. CODE 39 - ENDOCRINE/SALIVARY GL.
15. CODE 38 - RETICULO-ENDOTHELIAL
16. CODE 29 - MUSCLE/JOINT
17. CODE 69 - CONGENTIAL
18. CODE P8 - PUO
19. CODE G8 - FEVER/MALAISE
20. CODE 09 - OTHER
21. CODE A1 - SIDS

		12	13	14	15	16	17	18	19	20	21	TOTAL
0100	ADENOVIRUS NOT TYPED	0	0	0	0	0	0	1	1	0	0	2
0103	ADENOVIRUS TYPE 3	1	0	0	0	0	0	0	2	0	0	3
0104	ADENOVIRUS TYPE 4	2	0	0	0	0	0	0	0	0	0	2
0108	ADENOVIRUS TYPE 8	2	0	0	0	0	0	0	0	0	0	2
0135	ADENOVIRUS TYPE 35	0	0	0	0	0	0	0	0	1	0	1
0199	ADENOVIRUS TYPING PENDING	0	0	0	0	0	0	0	0	0	1	1
0203	INFLUENZA B VIRUS	0	0	0	1	0	0	0	0	0	0	1
0303	PARAINFLUENZA VIRUS TYPE 3	0	0	0	0	0	0	0	1	0	0	1
0400	RESPIRATORY SYNCYTIAL VIRUS (R	0	0	0	0	0	0	0	1	0	0	1
0500	RHINOVIRUS (ALL TYPES)	0	0	0	0	0	0	0	0	2	0	2
0600	MYCOPLASMA PNEUMONIAE	0	0	0	0	0	0	0	1	0	0	
0809	COXSACKIEVIRUS A9	0	0	0	0	0	0	0	0	1	0	
0824	COXSACKIEVIRUS A24 = ECHOVIRUS	1	0	0	0	0	0	0	0	0	0	1
0905	COXSACKIEVIRUS B5	0	0	0	0	0	0	0	4	0	0	4
1027	ECHOVIRUS TYPE 27	0	0	0	0	0	0	0	1	0	0	1
1100	POLIOVIRUS NOT TYPED	0	0	0	0	0	2	0	0	0	0	2
1101	POLIOVIRUS TYPE 1	0	0	0	0	0	0	0	0	0	1	1
1102	POLIOVIRUS TYPE 2	0	0	0	0	0	0	0	0	0	1	1
1300	HERPES VIRUS GROUP - NOT TYPED	0	1	0	0	0	0	0	0	1	0	2
1301	HERPES SIMPLEX VIRUS - NOT TYP	0	1	0	0	0	0	0	0	0	0	1
1302	EPSTEIN-BARR VIRUS (EB VIRUS)	0	0	5	0	0	0	0	3	1	0	9
1303	VARICELLA-ZOSTER VIRUS	1	0	0	0	0	0	0	0	0	0	1
1306	HERPES SIMPLEX TYPE 1	4	32	0	0	0	0	0	1	1	0	38
1307	HERPES SIMPLEX TYPE 2	0	148	0	0	0	0	0	0	0	0	148
1399	HERPES VIRUS TYPING PENDING	0	0	0	0	0	0	0	1	0	0	1
1401	COXIELLA BURNETI	0	0	0	0	0	0	0	7	1	0	8
1522	RUBELLA VIRUS	0	0	1	0	0	0	0	0	2	0	3
1532	HEPATITIS B ANTIGEN	0	0	0	0	1	0	0	0	5	0	6
1535	HEPATITIS A ANTIBODY	0	0	0	0	0	0	0	0	1	0	1
1541	CHLAMYDIA A - C. TRACHOMATIS	0	66	0	0	0	0	0	0	2	0	68
1556	CMV - CYTOMEGALOVIRUS	1	7	0	0	0	3	0	6	7	0	24
1599	ENTEROVIRUS TYPING PENDING	0	0	0	0	0	0	0	3	0	1	4
9992	ROSS RIVER VIRUS	0	0	0	0	8	0	0	5	0	0	13
9998	ARBO. GROUP B. (UNSPECIFIED)	0	0	0	0	0	0	0	1	0	0	1
TOTAL		12	255	6	1	9	5	1	38	25	4	356