

TEXAS
GOATS

EFFECT OF HEATING COW SERUM AT 60°C FOR 30 MINUTES ON LANSING PROTECTIVE ANTIBODY.

DONOR	DATE OF TEST	TREATMENT	LOG OF FINAL DILUTION OF VIRUS IN MIXTURE				LOG LD ₅₀	NEUTRALIZ. INDEX
			1.6	2.3	3.0	4.0		
VIRUS CONTROL SALINE	9/20/50		8/8	7/7	6/8	2/8	3.5	
	9/22/50		6/7	8/8	8/8	5/8	4.1	
	Cumulative		14/15	15/15	14/16	7/16	3.7	
S. COW #7	9/22/50	UNHEATED	3/8	2/8	0/8	—	1.6	130
		HEATED	3/8	0/8	0/8	—	1.5	160
S. COW #10	9/22/50	UNHEATED	2/8	2/8	0/8	—	1.5	160
		HEATED	1/8	0/8	0/8	—	1.3	250
S. COW #11	9/22/50	UNHEATED	3/8	1/8	2/8	—	1.7	100
		HEATED	3/8	2/8	2/7	—	1.8	80
V.M. COW #3	9/20/50	UNHEATED	2/8	0/8	1/8	—	1.4	200
		HEATED	0/8	1/8	2/8	—	1.4	200
V.M. COW #4	9/20/50	UNHEATED	3/8	0/7	0/5	—	1.5	160
		HEATED	2/8	1/8	1/8	—	1.5	160
V.M. COW #9	9/20/50	UNHEATED	4/8	2/8	*	—	1.8	80
		HEATED	3/7	1/6	1/6	—	1.6	130

* MOST OF THESE ANIMALS DIED OF TYPHOID.

SUMMARY OF TEST OF 9/20/50

EFFECT OF HEATING COW SERUM AT 60°C FOR 30 MINUTES ON LANSING PROTECTIVE ANTIBODY.

DONOR	TREATMENT	MORTALITY AT INDICATED FINAL DILUTION OF VIRUS				LD ₅₀
		1.6	2.3	3.0	4.0	
V.M. COW #3	UNHEATED	2/8	0/8	1/8	—	1.4
	HEATED	0/8	1/7	2/8	—	1.4
V.M. COW #4	UNHEATED	3/8	0/7	0/5	—	1.5
	HEATED	2/8	1/8	1/8	—	1.5
V.M. COW #9	UNHEATED	4/8	2/8	*	—	1.8
	HEATED	3/7	1/6	1/6	—	1.6
CONTROLS		8/8	7/7	6/8	2/8	3.5

* Most of these animals died of typhoid.

EFFECT OF INCUBATION FOR ONE HOUR AT ROOM TEMPERATURE ON LANSING PROTECTIVE ANTIBODY.

DONOR	TREATMENT	MORTALITY AT INDICATED FINAL DILUTION OF VIRUS				LD ₅₀
		1.6	2.3	3.0	4.0	
V.M. COW #3	UNINCUBATED	4/8	2/6	0/8	—	1.8
	INCUBATED	2/8	0/8	1/8	—	1.4
DAVENPORT	UNINCUBATED	3/8	0/8	3/8	—	1.7
	INCUBATED	2/8	0/8	0/8	—	1.4
CONTROL		8/8	7/7	6/8	2/8	3.5

MECHANISM OF ANTIPOLIOMYELITIC EFFECT OF CERTAIN SERA - HUMAN + COW

SEP 20 1950

a) Effect of Incubation

b) Effect of Heating Cow Sera at 60°C

PURPOSE - To get an indication of the mechanisms involved in the polio virus neutralization observed in certain sera.

METHODS - Virus dilution 1:20, 10^{-2} , + 1:500 Prepared in saline + kept in ice bath. 0.2 cc of each dilution delivered to two series of tubes. To one series of tubes 0.2 cc of antipoliomyelitic Pool serum was added + to the other series 0.2 cc of antipoliomyelitic human serum was added to each tube. Contents in these two series of tubes incubated immediately, without incubation.

Virus was then distributed to the other tubes of the test, sera were added making final virus dilutions of 1:40, 1:200, 10^{-3} in each series. These mixtures were incubated for 1 hr at room temperature before inoculation.

VIRUS - Lansing Pool V of 6/6/50

SERA - V.M. cow # 3, # 4, # 9. HUMAN SERUM - DAVENPORT
V.M. COW #3, #4, #9 (heated 60°C x 1/2 hr)
The serum darkened upon heating in sealed, submerged glass ampoules.

MICE - 18-20 gram Mayfield albinos (females)

CODE	SERUM SPECIMEN	INCUBATION	FINAL VIRUS DILUTION			
			1:40	1:200	10^{-3}	10^{-4}
A.	V.M. COW # 3	NONE	4/8	2/6	0/8	-
B.	DAVENPORT	NONE	3/8	0/8	3/8	-
C.	DAVENPORT	1 hr AT Room	2/8	0/8	0/8	-
D.	V.M. COW # 3	"	2/8	0/8	1/8	-
E.	V.M. COW # 4	"	3/8	0/7	0/5	-
F.	V.M. COW # 9	"	4/8	2/8	-	-
G.	V.M. COW #3 - 60°C x 1/2 hr	"	0/8	1/7	2/8	-
H.	V.M. COW #4 - 60°C x 1/2 hr	"	2/8	1/8	1/8	-
I.	V.M. COW #9 - 60°C x 1/2 hr	"	3/7	1/6	1/6	-
J.	CONTROL (SALINE + VIRUS)	"	8/8	7/7	6/8	2/8

SEP 20 1950

MORTALITY LD 50

SPECIMEN VIRUS NO 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35

A

SERUM
V.M. COW #3
+

LANSING
NO INCUBATION

EGGED

PPD

PP HAR 9/25

1/40

PPD

4/8 10 -1.8

PPD

1/200

TYPHOID

TYPH D

2/6

LITTER OF 6

10-3

0/8

B

LANSING
NO INCUBATION
+

PPD

1/40

3/8

PPD

SEP 20 1950

MORTALITY LD 50

SPECIMEN	VRW No	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35
B (CONT.) SERUM	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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INCUBATION FOR 1hr AT Room Temp.	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
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0/8

3/8

2/8

0/8

10-1.7

2-3-4-5-6-7-8-9-10-11-12-13-14-15-16-17-18-19-20-21-22-23-24-25-26-27-28-29-30-31-32-33-34-35

SEP 20 1950

MORTALITY

VIRUS NO 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35

C (CONT.)

SERUM

10-3

LANSING

INCUBATION 1hr.
AT ROOM

0/8

< 10⁻¹⁶

D

SERUM
V.M. COW
#3

+

LANSING

INCUBATION
1hr. AT ROOM

2/8

< 10⁻¹⁶

0/8

PPPD

10-3

1/8

SPECIMEN

VIRUS NO

VIRUS NO 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35

MORTALITY

W

SERUM
V.M. # 4
+

LAUSING

Unheated

1 km

120000

$$< 10^{-1.6}$$
$$\frac{3}{8}$$

6/0

5/0

 $\frac{4}{8}$

4

SERUM
V.M. cow
9

LANSHIN &

SEP 20 1950

MORTALITY

VIRUS NO 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35

SPECIMEN
F
(CONT.)

SERUM
V.M. COW
#9
+

LANSING

Unheated

1 hr. room

TYD

1 D
2 ?
3 D-TYPHOID
4 ?
5 D-TYPHOID
6 ?
7 D-TYPHOID
8 ?

1 D-TYPHOID
2 ?
3 D-TYPHOID
4 ?
5 D-TYPHOID
6 ?
7 D-TYPHOID
8 ?

SERUM
V.M. COW
#3
HEATED 60°C x 1/2 hr

+

LANSING

D
Typhoid

1 D
2 ?
3 D
4 ?
5 D
6 ?
7 D
8 ?

1 D
2 ?
3 D
4 ?
5 D
6 ?
7 D
8 ?

1 D
2 ?
3 D
4 ?
5 D
6 ?
7 D
8 ?

10
-1.8

2/8

0/8

<10
-1.6

1/7

SEP 20 1950

MORTALITY

SPECIMEN VIPS NO 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35

G (CONT)
V.M. COW
#3
SERUM HEATED
60°C x 1/2 hr
+
LANSING

2/8

WEPPD

H

2/8

V.M. COW
#4
SERUM HEATED
60°C x 1/2 hr
+
LANSING

< 10^{-1.6}

1/8

1/8

MORTALITY L D 50

[illegible]

SEP 20 1950

MORTIMER LD50

SPECIMEN VIBROS NO. 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35

CONTROL

1/200

CONTROL

SALINE + LANSING

10⁻³

10⁻⁴

7/7

6/8

2/8

10^{-3.5}

1 2 3 4 5 6 7 8

WPPD

P D

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SUMMARY OF TEST OF 9/22/50

EFFECT OF HEATING COW SERUM AT 60°C FOR 30 MINUTES ON LANSING PROTECTIVE ANTIBODY.

DONOR	TREATMENT	MORTALITY AT INDICATED FINAL DILUTION OF VIRUS				LD ₅₀
		1.6	2.3	3.0	4.0	
S. Cow #7	UNHEATED	3/8	2/8	0/8	—	10 ^{-1.6}
	HEATED	3/8	0/8	0/8	—	1.5
S. Cow #10	UNHEATED	2/8	2/8	0/8	—	1.5
	HEATED	1/8	0/8	0/8	—	1.3
S. Cow #11	UNHEATED	3/8	1/8	2 ³ /8	—	1.7
	HEATED	3/8	2/8	2/7	—	1.8
CONTROLS		6/7	8/8	8/8	5/8	4.1

EFFECT OF INCUBATION FOR ONE HOUR AT ROOM TEMPERATURE ON LANSING ANTIBODY

DONOR	TREATMENT	MORTALITY AT INDICATED FINAL DILUTION OF VIRUS				LD ₅₀
		1.6	2.3	3.0	4.0	
S. Cow #7	UNINCUBATED	4/8	1/8	0/7	—	1.7
	INCUBATED	3/8	2/8	0/8	—	1.6
D. NELSON	UNINCUBATED	1/8	1/8	0/7	—	1.3
	INCUBATED	1/8	1/8	0/8	—	1.3
CONTROLS		6/7	8/8	8/8	5/8	4.1

TEST FOR PRESENCE OF LANSING PROTECTIVE SUBSTANCE
IN COLOSTRUM AND REGULAR MILK OF V.M. COW #9

SPECIMEN	MORTALITY AT INDICATED FINAL DILUTION OF VIRUS				LD ₅₀
	1.6	2.3	3.0	4.0	
1 st DAY COLOSTRUM - 8/2/50	3/7	0/8	0/7	—	1.5
REGULAR MILK OF 9/10/50	8/8	6/8	4/8	—	2.8
CONTROL	6/7	8/8	8/8	5/8	4.1

MECHANISM OF ANTIPOLIO MYELITIC EFFECT OF CERTAIN SERA

SEP. 22 1950

HUMAN AND COW SERA - a) Effect of incubation
b) Effect of 60°C for 30 min on Cow sera

PURPOSE - To get an indication of the mechanism involved in the polio virus neutralization observed in certain sera.

METHODS - Virus dilutions 1:20, 10^{-2} , + 1:500. Prepared in saline + kept in ice bath. 0.2cc of each dilution delivered to two series of tubes. To one series of tubes 0.2cc of anti polio myelitic Cow serum was added + to the other series 0.2cc of anti polio myelitic human serum was added to each tube. Contents of these two series is inoculated immediately, without incubation. Virus was then distributed to the other tubes of the test, sera was added making final virus dilutions of 1:40, 1:200, 10^{-3} in each series. These mixtures were incubated for 1 hr at room temp. before inoculation.

VIRUS - Lansing Pool V of 6/6/50

SERA - S. COWS # 7, 10, 11 (HEATED + UNHEATED) -
HUMAN SERUM - O. NELSON.
(Heated sera were submerged in 60°C H₂O for 1/2 hr. Darkened).

MICE - 18-20 gram May field albino (females).

CODE	SERUM SPECIMEN	INCUBATION	FINAL VIRUS DILUTION			
			1:40	1:200	10^{-3}	10^{-4}
A	S. COW # 7	NONE	4/8	1/8	0/7	-
B	O. NELSON	NONE	1/8	1/8	0/7	-
C	S. COW # 7	1 hr AT Room	3/8	2/8	0/8	-
D	O. NELSON	"	1/8	1/8	0/8	-
E	S. COW # 10	"	2/8	2/8	0/8	-
F	S. COW # 11	"	3/8	1/8	2/8	-
G	S. COW # 7-60°C x 1/2 hr	"	3/8	0/8	0/8	-
H	S. COW # 10-60°C x 1/2 hr	"	1/8	0/8	0/8	-
I	S. COW # 11-60°C x 1/2 hr	"	3/8	2/8	2/7	-
J) K)	SEE PROTOCOL FOR MILKS ^{V.M. # 9}					
L	CONTROL	"	6/7	8/8	8/8	5/8

SEP 22 1950

[illegible]

SEP 22 1950

SPECIMEN

B

O. NELSON
SERUM
+
LANSING

NO INCUBATION

VIRUS

1/200

10-3

1/40

1/200

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35

MORTALITY

1/8

0/7

3/8

2/8

1 - - - - -
2 - - - - -
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S. COW
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SERUM
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LANSING

INCUBATED
1hr AT Room

SEP 22 1950

MORTALITY

SPECIMEN VIRUS NO. 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35

S. COW #7
SERUM
+
LANSING
INCUBATED
1hr. AT ROOM

0/8

D

O. NELSON
SERUM
+
LANSING
INCUBATED
1hr. AT ROOM
TEMP.

1/8

PPPD

1/8

0/8

SPEC 1 ME

SPECIMEN VIRUS

VIRUS No 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35

MORTALITY

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LANSING

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Mo. S. #11

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SEP 22 1950

MORTALITY

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P P

S. COW #7
SERUM HEATED
60°C x 1/2 h
+
LANSING

1/100

SEP 22 1950

MORTALITY

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SEP 22 1950

MORTALITY

VIRUS NO 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 24 25

I

S. COW

#11

SERUM

HEATED 60°C x 1/2 hr

+

LANSING

3/8

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2/7

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