

Comparative test for neutralizing antibody vs own virus
in 3 mo and 3 yr sera of patient

7-13-51

Virus: Gen III, 10-18-48 20% susp. Rh 421 vial 1

Sera to be tested: 3 mo serum 11-13-47
3 yr serum 6-3-50.

Selection of dose of virus: 10^{-2} (final dil.) = 1:100

Procedure:

- a. 3 mo serum. 0.4 cc undil. + 1.2 cc saline \rightarrow 1.6 cc 1:4.
b. 0.4 cc 1:4 + 1.2 cc " \rightarrow 1.6 cc 1:16.
c. 0.4 cc 1:16 + 1.2 cc " \rightarrow 1.6 cc 1:64. discard 0.4 cc
d. 3 yr serum 1.2 cc undiluted.
e. 0.4 cc undil. + 1.2 cc saline \rightarrow 1.6 cc 1:4
f. 0.4 cc 1:4 + 1.2 cc " \rightarrow 1.6 cc 1:16
g. 0.4 cc 1:16 + 1.2 cc " \rightarrow 1.6 cc 1:64. discard 0.4 cc.
h. Saline control: 1.4 cc saline.

Virus: 1.5 cc 1:5 (20%) + 13.5 cc saline = 15 cc 1:50.

Put in each tube a-g 3.2 cc virus 1:50 and to h 1.4 cc.

Leave at room temp. (79°) for one hour and in refrigerator overnight.

Immediately prior to inoculation of monkeys prepare 10 fold virus dilutions in saline from saline control tube.

10^{-2} = virus control.

10^{-3} = 0.3 cc 10^{-2} + 2.7 cc saline

10^{-4} = 0.3 cc 10^{-3} + 2.7 " "

10^{-5} = 0.3 cc 10^{-4} + 2.7 " "

Inoculate 0.5 cc into right thalamic area of each of 4 rhesus monkeys.

SERUM DILUTION NEUTRALIZATION

Rh 2157

3 MONTH SERUM - 1:64

DATE	DAY	REMARKS
July 13, 1951	0	
" 15	1	
" 16	2	
" 17	3	
" 18	4	
" 19	5	
" 20	6	
" 21	7	
" 22	8	
Aug 8	26	Killed for histology.

Rh 2158

3 MONTH SERUM - 1:64

DATE	DAY	REMARKS
July 13, 1951	0	
	1	
" 15	2	
	3	
	4	
	5	
	6	
	7	
Aug 8	26	Killed for histology.

Rh 2159

3 MONTH SERUM - 1:64

DATE	DAY	REMARKS
July 13, 1951	0	
" 15	1	
	2	
	3	
	4	
	5	
	6	
	7	
Aug 8	26	killed for histology

SERUM DILUTION NEUTRALIZATION

Rh 2160

3 MONTH SERUM - 1:64

DATE	DAY	REMARKS
July 13, 1951	0	
" 15	2	
16	3	Blood diarrhea. Chloromycetin + saline treatment. ^{before treatment!} Swabs for Dr. Cooper
17	4	Slight improvement. Continuation of treatment. result:
18	5	Stools still loose but no blood. Improved. no bacterial pathogens!!
19	6	This monkey likes to lay on the floor, is restless, hysterical
	7	behaves peculiar but is alert. (Hysterical reaction? this is from the beginning / after the i.c. injection?) observed.
	8	We seem recovered from the diarrhea
20	7	
21	8	
23	9	
24	10	
Aug 8	26	Killed for histology

SERUM DILUTION NEUTRALIZATION

Rh 2161

3 MONTH SERUM - 1:16

DATE	DAY	REMARKS
July 13, 1951	0	
	1	
" 15	2	
	• 3	
	• 4	
	• 5	
	• 6	
	• 7	
Aug 8	26	Killed for histology

SERUM DILUTION NEUTRALIZATION

Rh 2162

3 MONTH SERUM - 1:16

DATE	DAY	REMARKS
July 13, 1951	0	Anal swab (before treatment) for Dr Cooper. Result: no bacterial pathogens!
" 15	1	
	2	Blood diarrhea. Chloromycetin + saline treatment. Died the same evening
	3	Autopsy: no gross lesions except a severe hemorrhagic enteritis (no ulcers).
	4	Sections CNS in Zenker.
	5	
	6	

SERUM DILUTION NEUTRALIZATION

Rh 2163

3 MONTH SERUM - 1:16

DATE	DAY	REMARKS
July 13, 1951	0	
	1	
" 15	2	
	3	
	4	
	5	
	6	
	7	
Aug 8	26	Killed for histology

SERUM DILUTION NEUTRALIZATION

Rh 2164

3 MONTH SERUM - 1:16

DATE	DAY	REMARKS
July 13, 1951	0	
" 15	1	
16	2	
17	3	
18	4	
19	5	
20	6	
21	7	
22	8	
23	9	
	10.	Dead in cage, strangulated by the chain. Sections for histology. Autopsy negative lesions except lungs very thick.

- Serum Dilution Neutralization

Rh 2165

3month Serum - 1:4

Date	Day	Remarks
July 13, 1951	0	
" 15	1	
	2	
	3	
	4	
	5	
	6	
	7	
Aug 8	26	Killed for histology

SERUM DILUTION NEUTRALIZATION

Rh 2166

3 MONTH SERUM - 1:4

DATE	DAY	REMARKS
July 13, 1951	0	
" 15	1	
	2	
	3	
	4	
	5	
	6	
	7	
Aug 9	27	Killed for histology

SERUM DILUTION NEUTRALIZATION.

Rh 2167

3 MONTH SERUM - 1:4

DATE	DAY	REMARKS
July 13, 1951	0	
	1	
" 15	2	
	3	
	4	
	5	
	6	
	7	
Aug 9	27	Killed for histology

SERUM DILUTION NEUTRALIZATION

Rh 2168

3 MONTH SERUM - 1:4

DATE	DAY	REMARKS
July 13, 1951	0	
" 15	1	
	2	
	3	
	4	
	5	
	6	
	7	
Aug 8	26	Killed for histology.

SERUM DILUTION NEUTRALIZATION

Rh 2/69

3 YEAR SERUM - 1:64

DATE	DAY	REMARKS
July 13, 1951	0	
	1	
" 15	2	
	3	
	4	
	5	
	6	
	7	
Aug 8	26	Killed for histology

SERUM DILUTION NEUTRALIZATION

Rh 2170

3 YEAR SERUM - 1:64

DATE	DAY	REMARKS
July 13, 1951	0	
	1	
" 15	2	
	3	
	4	
	5	
	6	
	7	
	8	
	9	
	10	
24	11	partial paralysis of lowers.
25	12	the same
26	13	the same.
27	14	the same.
Aug 9	28	killed for histology

Rh 2171

3 YEAR SERUM - 1:64

DATE	DAY	REMARKS
July 13, 1951	0	
	1	
" 15	2	
	3	
	4	
	5	
	6	
	7	
Aug 9	27	killed for histology

— SERUM DILUTION NEUTRALIZATION

Rh 2172

3 YEAR SERUM - 1:64

DATE	DAY	REMARKS
July 13, 1951	0	
	1	
" 15	2	
16	3	
17	4	
18	5	
19	6	
20	7	
Aug 8	26	Killed for histology.

Rh 2100

3 YEAR SERUM - 1:16

DATE	DAY	REMARKS
July 13, 1951	0	
	1	
" 15	2	
	• 3	
	• 4	
	• 5	
	• 6	
	7	
	8	
	9	
	10	
July 24	11	<p>Arterial puncture of corners + left arm. Cannot sit or stand. Killed for virus. Sections for histology.</p>

— SERUM DILUTION NEUTRALIZATION

Rh 2129

3 YEAR SERUM — 1:16

DATE	DAY	REMARKS
July 13, 1951	0	
	1	
" 15.	2	
	3	
	4	
	5	
	6	
	7	
Aug 9	27	killed for histology

- SERUM DILUTION NEUTRALIZATION

Rh 2131

3 YEAR SERUM - 1:16

DATE	DAY	REMARKS
July 13, 1951	0	
	1	
" 15	2	
	3	
	4	
	5	
	6	
	7	
Aug 9	27	killed for histology

Rh 2197

3 YEAR SERUM - 1:16

DATE	DAY	REMARKS
July 13, 1951	0	
" 15	1	
	2	
	3	
	4	
	5	
	6	
	7	
Aug 9	9	killed for histology

SERUM DILUTION NEUTRALIZATION

Rh 2173

3 YEAR SERUM - 1:4

DATE	DAY	REMARKS
July 13, 1951	0	
	1	
" 15	2	
	3	
	4	
	5	
	6	
	7	
Aug 8	26	killed for histology.

SERUM DILUTION NEUTRALIZATION

Rh 2174

3 YEAR SERUM - 1:4

DATE	DAY	REMARKS
July 13, 1951	0	
	1	
" 15	2	
	3	
	4	
	5	
	6	
	7	
Aug 8	26	killed for histology

Rh 2175

3 YEAR SERUM - 1:4

DATE	DAY	REMARKS
July 13, 1951	0	
	1	
" 15	2	
	3	
	4	
	5	
	6	
	7	
Aug 8	26	killed for histology

— SERUM DILUTION NEUTRALIZATION

Rh 2176

3 YEAR SERUM - 1:4

DATE	DAY	REMARKS
July 13, 1951	0	
	1	
" 15	2	
	3	
	4	
	5	
	6	
	7	
Aug 8	206	Killed for histology

SERUM DILUTION NEUTRALIZATION

Rh 2177

3 year serum - undil.

DATE	DAY	REMARKS
July 13, 1951	0	
	1	
" 15	2	
	3	
	4	
	5	
	6	
	7	
Aug 8	26	killed for histology

- SERUM DILUTION NEUTRALIZATION

Rh 2178

3 year serum - undil.

DATE	DAY	REMARKS
July 13, 1951	0	
	1	
" 15	2	
	3	
	4	
	5	
	6	
	7	
Aug 8	26	Killed for histology.

SERUM DILUTION NEUTRALIZATION

Rh 2179

3 YEAR SERUM - UNDI.

DATE	DAY	REMARKS
July 13, 1951	0	
	1	
" 15	2	
	3	
	4	
	5	
	6	
	7	
Aug 8	26	Killed for histology

SERUM DILUTION NEUTRALIZATION

Rh 2180

3 YEAR SERUM - UNDI.

DATE	DAY	REMARKS
July 13, 1951	0	
	1	
" 15	2	
	3	
	4	
	5	
	6	
	7	
Aug 0	26	Killed for histology.

- SERUM DILUTION NEUTRALIZATION

Rh 2181

SALINE CONTROL - 10^{-5}

DATE	DAY	REMARKS
July 13, 1951	0	
	1	
" 15	2	
	3	
	4	
	5	
	6	
	7	
Aug 8	26	killed for histology.

SERUM DILUTION NEUTRALIZATION

Rh 2182

SALINE CONTROL - 10^{-5}

DATE	DAY	REMARKS
July 13, 1951	0	
	1	
" 15	2	
	3	
	4	
	5	
	6	
	7	
Aug 8	26	killed for histology

Rh 2183

SALINE CONTROL -10^{-5}

DATE	DAY	REMARKS
July 13, 1951	0	
" 15	1	
	2	
	3	
	4	
	5	
	6	
	7	
	8	
	9	
	10	
July 23	11	partial paralysis of lowers.
24	12	the same
25	13	the same + paralysis of the arms.
26	14	paralyzed. Killed. Dissected.

SERUM DILUTION NEUTRALIZATION

Rh 2184

SALINE CONTROL - 10^{-5}

DATE	DAY	REMARKS
July 13, 1951	0	
	1	
" 15	2	
	3	
	4	
	5	
	6	
	7	
Aug 2	26	killed for histology.

SERUM DILUTION NEUTRALIZATION

Rh 2185

SALINE CONTROL - 10^{-4}

DATE	DAY	REMARKS
July 13, 1951	0	
" 15	1	from the beginning peculiar behaviour (after the i.c. injection?).
16	2	"sticks" with his volcs on the floor, take a spider.
17	3	
18	4	
19	5	
	6	
	7	
	8	
22	9	paralysis of lowers. Tremor of head.
23	10	total paralysis of lowers. July 24 and 25 the same.
25	12	Killed. Dissected to make spore.

SERUM DILUTION NEUTRALIZATION

Rh 2186

SALINE CONTROL - 10^{-4}

DATE	DAY	REMARKS
July 13, 1951	0	
	1	
" 15	2	
	3	
	4	
	5	
	6	
	7	
	8	
22	9	Abol paralysis of lower. Control sit on stand
23	10	prostrate. Total paralysis of lower + r. arm.
25	12	Killed to make space.

Rb 2187

SALINE CONTROL - 10^{-4}

DATE	DAY	REMARKS
July 13, 1951	0	
	1	
" 15	2	
16	3	
17	4	
18	5	
19	6	
20	7	
21	8	
22	9	
23	10	
24	11	
25	12	
26	13	
27	14	
28	15	
29	16	
30	17	paralysis of lower and partial upper. Cannot sit or stand
31	18	prostrate.
1	19	total paralysis of upper and lower. Killed Discarded

SERUM DILUTION - NEUTRALIZATION

Rh 2188

SALINE CONTROL - 10^{-4}

DATE	DAY	REMARKS
July 13, 1951	0	
	1	
" 15	2	
	3	
	4	
	5	
	6	
	7	
	8	Weakness lowers?
22	9	Total paralysis of lower + r. arm. Cannot sit or stand.
23	10	Dead in cage. Discarded.

SERUM DILUTION NEUTRALIZATION

Rh 2189

SALINE CONTROL - 10^{-3}

DATE	DAY	REMARKS
July 13, 1951	0	
	1	
" 15	2	
16	3	
17	4	
18	5	
19	6	
20	7	
21	8	
22	9	
23	10	partial paralysis of lower. Can sit. Paralysis of right arm.
24	11	the same.
25	12	killed to make space.

Rh 2190

SALINE CONTROL - 10⁻³

DATE	DAY	REMARKS
July 13, 1951	0	
	1	
" 15	2	
16	3	
17	4	
18	5	
19	6	
20	7	
Aug 10	28	weakness of lowers? Killed for histology

Rh 2191

SALINE CONTROL - 10^{-3}

DATE	DAY	REMARKS
July 13, 1951	0	
	1	
" 15	2	
	3	
	4	
	5	
	6	
	7	
	8	
22	9	analysis of livers. Can sit but not stand.
23	10	cannot sit or stand.
25	12	killed to make spore.

SERUM DILUTION NEUTRALIZATION

Rh 2192

SALINE CONTROL - 10^{-3}

DATE	DAY	REMARKS
July 13, 1951	0	
	1	
" 15	2	
	3	
	4	
	5	
	6	
	7	
	8	
22	9	analysis of covers and partially upples. Cannot sit on stand.
23	10	Ske same. Killed. for

- SERUM DILUTION NEUTRALIZATION

Rh 2/93

SALINE CONTROL - 10^{-2}

DATE	DAY	REMARKS
July 13, 1951	0	
	1	
" 15	2	
	3	
	4	
	5	
	6	
	7	
	8	
22	9	paralysis of lowers and partially of upper. cannot sit.
23		the same. killed to make space.

SERUM DILUTION NEUTRALIZATION

Rb 2194

SALINE CONTROL - 10^{-2}

DATE	DAY	REMARKS
July 13, 1951	0	
	1	
" 15	2	
	3	
	4	
	5	Paralysis of lowers and uppers. Cannot sit or stand. Killed for virus.
	6	
	7	

SERUM DILUTION NEUTRALIZATION

Rh .2196

SALINE CONTROL - 10^{-2}

DATE	DAY	REMARKS
July 13, 1951	0	
" 15	1	
" 16	2	
" 17	3	
" 18	4	
" 19	5	
	6	
	7	paralysis of lower + upper. Cannot sit or stand. Killed for virus.