Passage of French Neurotropic Yellow Fever Virus

Purpose - to provide fresh virus for testing susceptibility or resistance of PR I mice for comparison with their established resistance to the 17-D derivative strain

Virus - Received to-day by air mail, spec. delivery (unrefrigerated, 24 hours in transit, from [redacted], I. H. D., Rockef. Inst., N.Y.C. two ampoules - marked SV 42 - SEP 29, '48 - of lyophilized virus - 250th passage.

One ampoule stored in reg. refrigerator

Other reconstituted with 0.5cc of sterile dist. H_2O and 0.03cc inoculated i.cer. into each of 10 Maxfield (Swiss) mice, about 8-10 Gm - average weight. (2:30 PM)

Passage 251:

	1	2	3	4	5	6	7
1	D						
2	-	-	-	CNS	P		D
3	-	-	-	CNS			
4	-	-	-	CNS			
5	-	-	-	CNS			
6	-	-	-	CNS			
7	-	-	-	CNS	D		
8	-	-	-	CNS	P	D	
9	-	-	-	CNS	P	D	
10	-	-	-	CNS	P	D	

HAR - 10/16 - titred in PR I + Swiss 3 amps of 2070-B BAC 000

French Neurotrop

French Neurotropic Yellow Fever Virus in PRI Mice

OCT 16 1950

PURPOSE - To determine the effect of the French neurotropic strain of yellow fever virus on PRI mice which are resistant to the 17-D strain of yellow fever.

VIRUS - Passage 251 material from 4 mice, inoculated 10/12/50, showing CNS sign 10/16/50. Brain of 4 mice removed + ground to 20% in NRS. 2000 SV diluted in 1090 RSS for this test + remainder of centrifuged 20% suspension frozen (3 ampules @ 1.5-2cc ea.)
Frozen - B -
BAP-000

MICE - 3-4 week old PRI - weaned 10/16/50
~~[redacted]~~
4-5 week old Webster-Swiss (controls).

PRI MICE

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
10^{-1}	1	-	-	-	?	?	?	D	EATEN												
	2	-	-	-	?	-	-	?	?	*	WWW	W	?	D							
	3	-	-	-	-	-	-	-	*	-	*	-	*	-	*	?	?	*	CNS	D - EATEN	
	4	-	-	-	-	-	-	-	-	-	-	-	?	?	-	*	-	-	-	-	-
3/10	5	-	-	-	-	-	-	-	-	-	-	-	?	?	-	-	-	-	-	-	-
	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10^{-2}	1	-	-	-	-	-	-	*	-	-	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
0/10	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

* - all mice ruffled

FRENCH NEUROTROPIC YELLOW FEVER IN PRI

PRI MICE

OCT 16 1950

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
10^{-3} 0/10	1	–	–	–	–	–	E	E	E	E	E	E	✱	–	–	–	–	–	–	–	–
	2	–	–	–	–	–	–	✱	E	E	✱	✱	✱	–	–	–	–	–	–	–	–
	3	–	–	–	–	–	–	–	✱	✱	–	–	–	–	–	–	–	–	–	–	–
	4	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	5	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	6	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	7	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	8	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	9	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	10	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
10^{-4} 4/10	1	–	–	–	–	–	✱	✱	E	E	E	E	D								
	2	–	–	–	–	–	–	–	E	E	E	E	D								
	3	–	–	–	–	–	–	–	✱	±	✱	✱	E	CNS?	D						
	4	–	–	–	–	–	–	–	–	–	–	?	?	"	CNS	CNS	✱	D			
	5	–	–	–	–	–	–	–	–	–	–	–	"	"	?	✱	?	?	✱	–	–
	6	–	–	–	–	–	–	–	–	–	–	–	"	"	?	–	–	–	–	–	–
	7	–	–	–	–	–	–	–	–	–	–	–	–	✱	✱	–	–	–	–	–	–
	8	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	✱
	9	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	10	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
10^{-5} 5/9	1	–	–	MISSING TO 19																	
	2	–	–	–	–	–	EG	EG	EG	EE	D	– EDTGN									
	3	–	–	–	–	–	F	E	✱	E	E	E	D								
	4	–	–	–	–	–	–	–	✱	E	E	E	D								
	5	–	–	–	–	–	–	–	✱	✱	✱	?	CNS	D							
	6	–	–	–	–	–	–	–	–	–	–	?	✱	!	?	!	!	!	!	!	!
	7	–	–	–	–	–	–	–	–	–	–	?	✱	!	?	!	!	!	!	!	!
	8	–	–	–	–	–	–	–	–	–	–	–	!	?	!	!	!	!	!	!	
	9	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	✱	–	–	
	10	–	–	–	–	–	–	–	✱	✱	✱	✱	D								

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
10^{-6} 7/9	1	D																			
	2	–	–	–	–	–	✱	✱	✱	✱	✱	PP	✱	D							
	3	–	–	–	–	–	–	–	–	–	–	(NS)	D								
	4	–	–	–	–	–	–	–	–	–	–	?	?	✱	D						
	5	–	–	–	–	–	–	–	–	–	–	?	?	S	D						
	6	–	–	–	–	–	–	–	–	–	–	?	?	S	D						
	7	–	–	–	–	–	–	–	–	–	–	?	?	S	S	D					
	8	–	–	–	–	–	–	–	–	–	–	?	S	"	?	?	D				
	9	–	–	–	–	–	–	–	–	–	–	–	S	"	–	–	–	–	–		
	10	–	–	–	–	–	–	–	–	–	–	–	S	"	–	–	–	–	–		

✱ all mice ruffled

✱✱ Mouse 10 of 10^{-5} has pyogenic infection of hind paw
10/30 Mice 6, 7, 4 & 8 exhibit – pyogenic inflamm. lesions of extremities

FRENCH NEUROTROPIC YELLOW FEVER IN PRI

PRI MICE

10^{-7}

9/10

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
1	-	-	-	-	-	-	-	-	-	*	*	(NS)*	D								
2	-	-	-	-	-	-	-	-	-	-	-	(NS)	D								
3	-	-	-	-	-	-	-	-	-	-	-	?	(NS)?	D							
4	-	-	-	-	-	-	-	-	-	-	-	?	?*	S	D						
5	-	-	-	-	-	-	-	-	-	-	-	?	?	S	D						
6	-	-	-	-	-	-	-	-	-	-	-	-	?	S	M#1 – Harv. & titered 10/30 – BAP-000						
7	-	-	-	-	-	-	-	-	-	-	-	-	?	S	S	D					
8	-	-	-	-	-	-	-	-	-	-	-	-	?	S	"	?	?	D			
9	-	-	-	-	-	-	-	-	-	-	-	-	-	S	"	?	?	D			
10	-	-	-	-	-	-	-	-	-	-	-	-	-	S	"	?	-	-	-	-	-

10^{-8}

4/10

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
1	-	-	-	-	-	-	-	-	D												
2	-	-	-	-	-	-	-	-	-*	-*	*	D									
3	-	-	-	-	-	-	-	-	-	-	-	?*	?*	S	D						
4	-	-	-	-	-	-	-	-	-	-	-	-	?	-	?	-	-	?(NS)D			
5	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-
6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

10/30 – Examination to-day revealed that mice were sick – no definite CNS signs.

The presence of the severe purulent inflammatory lesions in the extremities of mice in the 10^{-5} box suggests that some spontaneous bacterial infection might be responsible.

(CONTROLS OVER)

French Neurotropic Yellow Fever in PRI

WEBSTER-SWISS (CONTROLS)

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21

10^{-3}
1 - - - D
2 - - - CNS D
3 - - - CNS D
4 - - - CNS D
5 - - - CNS Pn D

10^{-4}
1 - - - D
2 - - - D
3 - - - CNS D
4 - - - CNS D
5 - - - CNS D

10^{-5}
1 - - - D
2 - - - CNS D
3 - - - CNS Pn D
4 - - - ? CNS D
5 - - - - ? CNS D

10^{-6}
1 - - - ? D
2 - - - - D
3 - - - - CNS D
4 - - - - CNS D
5 - - - - ? D

10^{-7}
1 D
2 - - - - Pn D
3 - - - - CNS D
4 - - - - ? D
5 - - - - - ? D

10^{-8}
1 - - - - - D
2 - - - - - CNS D
3 - - - - - ? D
4 -
5 -

10^{-9}
1 - - - - - ? CNS D
2 -
3 -
4 -
5 -

Titration [redacted] of French Yellow Fever from PRI m -10-7

OCT 30 1950

PURPOSE - To determine titer of virus in brain of PRI mouse inoculated w French neurotropic yellow fever virus.
Mouse showed paralytic signs: not definitely convulsed, paralysis, hunched, looked sick. No bacteria, fungi, in smear of brain or blood.

VIRUS - 10 90 brain suspension of PRI mouse inoculated w 10-7 French yellow fever virus 10/16/50
Portion of 1090 used — this test
Remainder frozen - B2-3
Brain susp. B4P 000
Heart blood - B4P 000

MICE - 8-10 Swiss albino

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
10^{-4}	1	-	-	-	-	-	D															
	2	-	-	-	-	-	?	D														
	3	-	-	-	-	-	?	?	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10^{-5}	1	-	-	-	* MISSING																	
	2	-	-	-	* MISSING																	
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10^{-6}	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10^{-7}	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10^{-8}	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Passage of French Neurotropic Yellow Fever Virus

NOV 17 1950

PASS 252

PURPOSE - To provide fresh virus for re-testing susceptibility or resistance of PRI mice to this virus.

VIRUS — French Neurotropic Yellow fever virus - Passage 251 of 10/16/50. Frozen as 2070 in NRS

MICE — 8 - 10 gram Swiss albino

	1	2	3	4	5	
1	-	-	-	D		
2	-	-	-	(M)		HAR 11/21 diluted in saline + PRI MICE BAP-006
3	-	-	-	(M)		1 amp Frozen B-1-1 as 2070 in NRS
4	-	-	-	(M)		
5	-	-	-	(M)	D	
6	-	-	-	(M)	D	
7	-	-	-	(M)	D	
8	-	-	-	(M)	D	
9	-	-	-	(M)	D	
10	-	-	-	(M)	D	

STANDARD B&P "NOTEAR"

FRENCH NEUROTROPIC YELLOW FEVER VIRUS IN PRI
(REPEAT TEST)

NOV 21 1950

PURPOSE – To determine the effect of French yellow fever virus on PRI mice.

VIRUS – French neurotropic yellow fever virus Pass 252 of 11/20/50 diluted in 10% RSS for the titration & 1 amp frozen p-1-1. as 20% susp in NRS.

MICE – 3-4 week old PRI MICE
8-10 gram Mayfield albinos (controls).

PRI MICE

Dilution	Mouse	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
10^{-1}	1	-	-	-	-	-	PP	PD																					
	2	-	-	-	-	-	?	?	?	?	?	?	?	?	?	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	?	?	?	?	?	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	4	-	-	-	-	-	-	-	?	?	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	5	-	-	-	-	-	-	-	?	?	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10^{-2}	1	-	-	-	-	-	?P* } Har 10/28/50 - ground as 20% in NRS. Titered in SWISS PASSED IN PRI - BAP-0																						
	2	-	-	-	-	-	-	?	WW	WW	WW	PP	D																
	3	-	-	-	-	-	-	?	WW	WW	WW	WW	WW*	WW*	WW*	WW	WW	WW	WW	WW	W	-	-	-	-	-	-	-	-
	4	-	-	-	-	-	-	-	WW	WW	?*	WW	WW*	WW*	WW*	?	-	-	-	-	-	-	-	-	-	-	-	-	-
	5	-	-	-	-	-	-	-	?	?	?*	?	?*	?*	?*	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	6	-	-	-	-	-	-	-	?	?	-*	?*	?*	?*	?*	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	7	-	-	-	-	-	-	-	-	?	-*	-*	-*	-*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	8	-	-	-	-	-	-	-	-	-	-*	-*	-*	-*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	9	-	-	-	-	-	-	-	-	-	-*	-*	-*	-*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	10	-	-	-	-	-	-	-	-	-	-*	-*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10^{-3}	1	D																											
	2	-	-	-	-	-	-	?	?	?	PP	D																	
	3	-	-	-	-	-	-	-	?	?	WW	WW WW	D																
	4	-	-	-	-	-	-	-	?	?	?	WW	WW	WW*	D														
	5	-	-	-	-	-	-	-	-	-	-*	?	?*	?*	?*	?	?*	?	?	?	-	-	-	-	-	-	-	-	-
	6	-	-	-	-	-	-	-	-	-	-*	?	?*	-*	?*	?	?	-	-	-	-	-	-	-	-	-	-	-	-
	7	-	-	-	-	-	-	-	-	-	-*	-*	-*	-*	?*	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	8	-	-	-	-	-	-	-	-	-	-*	-*	-*	-*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	9	-	-	-	-	-	-	-	-	-	-*	-*	-*	-*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	10	-	-	-	-	-	-	-	-	-	-	-*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

* Ruffled

French Neurotropic Yellow Fever in PRI MICE

NOV 21 1950

PRI MICE

	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	∞
10^{-4}																												
1	–	–	–	–	–	–	–	?	?	D																		
2	–	–	–	–	–	–	–	?	?	?	WW	D																
3	–	–	–	–	–	–	–	?	?	?	WW	D																
4	–	–	–	–	–	–	–	?	?	?	WW	D																
5	–	–	–	–	–	–	–	–	–	–	?	?	?	WW	D													
6	–	–	–	–	–	–	–	–	–	–	?	?	?	?	CWS	D												
7	–	–	–	–	–	–	–	–	–	–	?	?	–	?	CWS	?	?	?	?	?	!	–	–	–	–	–	–	–
8	–	–	–	–	–	–	–	–	–	–	?	?	?	?	?	?	–	?	?	–	–	–	–	–	–	–	–	–
9	–	–	–	–	–	–	–	–	–	–	?	?	–	?	?	?	?	–	–	–	–	–	–	–	–	–	–	–
10	–	–	–	–	–	–	–	–	–	–	?	?	–	–	?	–	?	–	–	–	–	–	–	–	–	–	–	–
10^{-5}																												
1	D																											
2	–	–	–	–	–	–	–	?	WW	P	W	P	P	D														
3	–	–	–	–	–	–	–	?	WW	W	P	WP	D															
4	–	–	–	–	–	–	–	?	?	WW	WW	P	P	D														
5	–	–	–	–	–	–	–	?	?	?	WW	W	W	P	P	D												
6	–	–	–	–	–	–	–	?	?	?	WW	W	D															
7	–	–	–	–	–	–	–	–	–	?	?	?	WW	W	W	?	?	?	–	–	–	–	–	–	–	–	–	–
8	–	–	–	–	–	–	–	–	–	?	?	?	?	?	?	–	–	–	–	–	–	–	–	–	–	–	–	–
9	–	–	–	–	–	–	–	–	–	?	?	?	?	?	–	–	–	–	–	–	–	–	–	–	–	–	–	–
10	–	–	–	–	–	–	–	–	–	–	?	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
10^{-6}																												
1	–	–	–	–	–	–	–	?	?	W	PP	D																
2	–	–	–	–	–	–	–	?	?	?	WW	W	D															
3	–	–	–	–	–	–	–	–	–	?	WW	W	PP	D														
4	–	–	–	–	–	–	–	–	–	?	WW	W	PP	D														
5	–	–	–	–	–	–	–	–	–	?	WW	W	W	P	?	W	W	W	?	?	?	–	–	–	–	–	–	–
6	–	–	–	–	–	–	–	–	–	?	WW	W	W	W	W	?	?	?	–	–	–	–	–	–	–	–	–	–
7	–	–	–	–	–	–	–	–	–	?	?	?	?	WW	?	?	?	–	–	–	–	–	–	–	–	–	–	–
8	–	–	–	–	–	–	–	–	–	?	?	?	?	?	?	–	–	–	–	–	–	–	–	–	–	–	–	–
9	–	–	–	–	–	–	–	–	–	?	?	?	?	?	–	–	–	–	–	–	–	–	–	–	–	–	–	–
10	–	–	–	–	–	–	–	–	–	?	?	?	?	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
10^{-7}																												
1	–	–	–	–	–	–	–	?	?	?	W	W	PP	D														
2	–	–	–	–	–	–	–	–	–	?	WW	W	P	P	D													
3	–	–	–	–	–	–	–	–	–	?	?	WW	W	D														
4	–	–	–	–	–	–	–	–	–	?	WW	W	PP	D														
5	–	–	–	–	–	–	–	–	–	?	?	?	?	PP	PP	D												
6	–	–	–	–	–	–	–	–	–	?	?	?	WW	WW	D													
7	–	–	–	–	–	–	–	–	–	?	?	?	?	WW	PP	PP	PP	PP	PP	D								
8	–	–	–	–	–	–	–	–	–	?	?	?	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
9	–	–	–	–	–	–	–	–	–	–	?	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
10	–	–	–	–	–	–	–	–	–	–	?	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–

* Ruffled

? – Questionable or Partial Paralysis

French Neurotropic Yellow Fever in PRI MICE

NOV 21 1950

PRI MICE

10^{-8}

	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
1	-	-	-	-	-	-	-	-	-	-	-		*	D														
2	-	-	-	-	-	-	-	-	-	-	-		*	-	WW	PP	D											
3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	D							
4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	D							
5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

MAXFIELD CONTROLS

	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
10^{-3} 1	-	-	-	CNS	D																							
2	-	-	-	CNS	D																							
3	-	-	-	CNS	D																							
4	-	-	-	CNS	Pn	D																						
5	-	-	-	CNS	Pn	D																						
10^{-4} 1	-	-	-	CNS	D																							
2	-	-	-	CNS	D																							
3	-	-	-	CNS	D																							
4	-	-	-	CNS	Pn	D																						
5	-	-	-	?	Pn	D																						
10^{-5} 1	-	-	-	?	D																							
2	-	-	-	?	D																							
3	-	-	-	-	D																							
4	-	-	-	-	CNS	D																						
5	-	-	-	-	CNS	D																						
10^{-6} 1	D																											
2	-	-	-	-	D																							
3	-	-	-	-	Pn	D																						
4	-	-	-	-	CNS	D																						
5	-	-	-	-	CNS	D																						
10^{-7} 1	-	-	-	-	CNS	D																						
2	-	-	-	-	?	D																						
3	-	-	-	-	-	CNS	D																					
4	-	-	-	-	-	CNS	D																					
5	-	-	-	-	-	CNS	D																					
10^{-8} 1	-	-	-	-	-	D																						
2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

OVER

of French neurotropic yellow fever in PRI

MAX FIELD CONTROLS (CONT)

10^{-9}

Titration of French Neurotropic Yellow Fever Virus from PRI M#1 - 10^{-2} of 11/21/50

NOV 28 1950

PURPOSE - To determine titer of virus in brain of PRI mouse inoculated c French Neurotropic yellow fever virus. Mouse was paralyzed 11/28/50 - 7 days after being inoculated c 10^{-2} dilution of the virus.

VIRUS - PRI M#1 10^{-2}, inoculated c French Neurotropic Yellow fever virus Pass 252-11/21, showing paralysis 11/28 was sacrificed. Brain + spinal cord removed + ground as 2090 in NRS. Dilutions for titration prepared in 1090 RSS. Remainder of 2090 frozen B-1-1 BAP-0

MICE - 4-5 week old Webster Swiss.

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
10^{-3}	1	-	-	WW	P	P	D															
	2	-	-	-	-	-	P?	D														
	3	-	-	-	-	-	?	D														
	4	-	-	-	-	-	-	?	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10^{-4}	1	D																				
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10^{-5}	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10^{-6}	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10^{-7}	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	5	-	-	-	-	-	-	* MISSING														
10^{-8}	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

French Neurotropic Yellow Fever Virus
From PRI in PRI.

NOV 28 1950

PURPOSE - To determine whether material from infected PRI mice, showing signs, will cause an apparent infection in PRI mice (most of which are resistant to the virus when it is prepared in susceptible swiss mouse brain.)

VIRUS - PRI mouse # 1 - 10^{-2}, inoculated = French Neurotropic Yellow fever virus Pan 252 11/21/50. Showing Paralysis 11/28/50, harvested 11/28/50 & brain + Cord suspension used in this test & for titration in Swiss mice. (See Protocol of titration).
Remainder of 2090 sup-B-1-1
BAP-000

MICE - 10 PRI mice 3-4 wks old.

10^{-1}

	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
1	-	-	-	-	-	?	-	-	?	W	W	P	D															
2	-	-	-	-	-	-	-	-	-	W	W	W	D															
3	-	-	-	-	-	-	-	-	-	?	?	?	?	?	WW	WW	?	-	-	-	-	-	-	-	-	-	-	-
4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	WW	?	-	-	-	-	-	-	-	-	-	-	-	-
5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Box missing

FEB 9 1951

Effect of French Neurotropic Yellow Fever Virus on F_1 and Backcross Mice.

Purpose – The French neurotropic yellow fever virus, despite a low level of multiplication in PRI mice nevertheless paralyzes and kills a certain proportion of them – more with smaller initial inocula than with larger ones. This suggests the possibility that the CNS of different mice varies with regard to vulnerability by the "French" virus. Is this variation also on a genetic basis? If so is it inherited as a dominant ~~in which case all F_1 mice~~ or a recessive when the PRI mice are bred with Swiss?

Mice – These were bred for tests with 17-D virus, but were in excess of the numbers needed. They vary in age as indicated in the protocols.

Virus – Passage 252 frozen in B-1-1 since 11/21/50 20% susp. in heated undil. rabbit serum. Fresh virus titered $10^{-7.6}$

Dilutions prepared in 10% rabbit serum saline, kept in ice water during inoculation.

Summary

Type of Mouse	Inoculum	No. of Mice	No. with CNS or paralysis	No. dead	
Swiss - 6wk	10^{-1}	10	6	10	– 100%
	10^{-6}	10	10	9	–
PRI - 5wk	10^{-1}	10	(6)	5	} 45%
" - old ♀	"	10	(4)	4	
" - 5wk	10^{-6}	10	8	8	} 50
" - old ♀	10^{-6}	10	3	2	
F_1	10^{-1}	35	30		
	10^{-6}	35	31		
Backcross PRI ♀ + F_1 ♂ (♀+♂)	10^{-1}	20	13		
	10^{-6}	17	17		

F_1 Mice – 10^{-1} Virus

FEB 9 1951

	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
Box A ♀+♂ born 12/10/50																												
1	–	–	–	–	?	PP	PP	D																				
2	–	–	–	–	–	CNS	PP	D																				
3	–	–	–	–	–	CNS	PP	D																				
4	–	–	–	–	–	CNS	PP	D																				
5	–	–	–	–	–	CNS	? CNS	PP	PP	D																		
6	–	–	–	–	–	? CNS	CNS	PP	PP	PP	D																	
7	–	–	–	–	–	?	?	CNS	CNS	PP	D																	
8	–	–	–	–	–	?	?	?	?	CNS	PP	D																
Box B ♀ + ♂ born 12/20/50																												
1	–	–	–	–	?	D																						
2	–	–	–	–	–	D																						
3	–	–	–	–	–	CNS	D																					
4	–	–	–	–	–	?	–	–	–	W?	W?	?	?	?	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Box C ♂ Large from several litters																												
1	–	–	–	–	W? CNS	D																						
2	–	–	–	–	–	PP	D																					
3	–	–	–	–	–	PP	D																					
4	–	–	–	–	–	CNS	D																					
5	–	–	–	–	–	CNS	D																					
6	–	–	–	–	–	CNS	P?	D																				
7	–	–	–	–	–	?	PP	P?	D																			
8	–	–	–	–	–	?	CN)	PP	PP	D																		
9	–	–	–	–	–	?	?	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Box D ♂ Large																												
1	–	–	–	–	–	?	D																					
2	–	–	–	–	–	?	CN)	CNS)	CNS	D																		
3	–	–	–	–	–	?	?	CN)	CNS	D																		
4	–	–	–	–	–	?	?	?	?	W?	W?	?	?	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Box E ♂ large																												
1	–	–	–	–	–	PP	D																					
2	–	–	–	–	–	PP	D																					
3	–	–	–	–	–	?	?	?	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
4	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Box F Males born 10/26/50																												
1	D																											
2	–	–	–	–	–	PP	D																					
3	–	–	–	–	–	PP	D																					
4	–	–	–	–	–	?	PP	D																				
5	–	–	–	–	–	–	–	–	–	–	W?	–	–	–	–	–	–	–	–	D								
Box G Males 10/10/50																												
1	–	–	–	–	–	? CNS	D																					
2	–	–	–	–	–	CNS	PP	D																				

F_1 Mice — 10-6 French Neurotropic Y.F.

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	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
Box H																												
♀ + ♂	1	-	-	-	-	?	-	-	-	W	W	PP	D															
	2	-	-	-	-	-	-	-	-	-	W	W	D															
born 12/27	3	-	-	-	-	-	-	-	-	-	-	W	P	D														
	4	-	-	-	-	-	-	-	-	-	?	W	PP	D														
	5	-	-	-	-	-	-	-	-	-	-	W	PP	D														
	6	-	-	-	-	-	-	-	-	-	-	W	PP	D														
	7	-	-	-	-	-	-	-	-	-	-	?	?	?	?	-	-	D										
	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Box I																												
♀ + ♂	1	-	-	-	-	-	-	-	-	D																		
born 1/17/51	2	-	-	-	-	-	-	-	-	W	PP	D																
5 mice in orig. litter	3	-	-	-	-	-	-	-	-	?	?	D																
Box J																												
Large ♂ from various litters (fighting)	1	-	-	-	-	*	♂																					
	2	-	-	-	-	-	*	D																				
	3	-	-	-	-	-	-	*	D																			
	4	-	-	-	-	-	-	-	*	D																		
	5	-	-	-	-	-	-	-	-	D																		
	6	-	-	-	-	-	-	-	-	CNS	W	D																
	7	-	-	-	-	-	-	-	-	CNS	W	PP	D															
	8	-	-	-	-	-	-	-	-	?	W	W	D															
	9	-	-	-	-	-	-	-	-	?	W	D																
	10	-	-	-	-	-	-	-	-	-	-	?	PP	D														
Box K																												
Large ♂ from various litters	1	D																										
	2	-	-	-	-	*	D																					
	3	-	-	-	-	-	-	-	-	PP	D																	
	4	-	-	-	-	-	-	-	-	W	D																	
	5	-	-	-	-	-	-	-	-	CNS	P	D																
	6	-	-	-	-	-	-	-	-	CNS	PP	D																
	7	-	-	-	-	-	-	-	-	?	CNS	PP	D															
	8	-	-	-	-	-	-	-	-	?	CNS	PP	D															
Box L																												
♀ + ♂	1	D																										
Born 11/6/50 one litter	2	-	-	-	-	-	-	-	-	?	PP	D																
	3	-	-	-	-	-	-	-	-	W	PP	D																
	4	-	-	-	-	-	-	-	-	W	PP	P	P	D														
	5	-	-	-	-	-	-	-	-	W	PP	PP	P	D														
	6	-	-	-	-	-	-	-	-	?	CNS	PP	P	D														

* MICE FIGHTING; BADLY CHEWED
~~BADLY CHEWED~~

FEB 9 1951

Backcross Mice — PRI ♀ × F_1 ♂ (S♀ + R♂)

Virus 10^{-1}

	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	
Box "a"	1 – – – – – P_1 D	
born 12/18 – 12/29	2 – – – – – ? CNS D	
Pool of 4 litters	3 – – – – – ? CNS D	
2/5, 2/6, 1/8, 3/6	4 – – – – – ? CNS P_n D	5/8
i.e. survivors	5 – – – – – ? ? W W W W W CNS P_n D	
of original	6 – – – – – ? ? ? W W W W W ? ? – – – – – – – – – –	
litters	7 – – – – – – ? ? ? ? ? ? – – – – – – – – – –	
	8 – – – – – – ? – – – ? ? – – – – – – – – – –	
Box "b"	1 – – – – – – ? W CNS D	
born 1/4/51	2 – – – – – – ? W W D	
	3 – – – – – – – ? P P P P P P P P P P P P P P P P P P P P	2/6
8 mice in orig. litter	4 – – – – – – – ? ? – – – – – – – – – – – – – – – –	
2 died	5 –	
	6 –	
Box "c"	1 – – – – – CNS D	
born 1/9/51	2 – – – – – CNS CNS D	5/6
poor shape	3 – – – – – ? ? CNS D	
small mice	4 – – – – – ? ? CNS W CNS D	
	5 – – – – – ? – ? W CNS CNS ? D	
10 mice in orig. litter	6 – – – – – ? – – ? ? – – – – – – – – – ? – – – – –	12/20
	runtr	

Virus 10^{-6}

Box "d"	1 – – – – – – W P P D	
born 12/31/50 – 1/1/51	2 – – – – – – – W D	
2 litters	3 – – – – – – – W W P P D	
3/8, 5/8	4 – – – – – – – ? ? P P P_n D	
	5 – – – – – – – – – ? P_n D	
	6 – – – – – – – – – – ? P P D	
	7 – – – – – – – – – – W P_n D	
	8 – – – – – – – – – – – – CNS W D	
Box "e"	1 – – – – – – W P D	
Born 1/1/51	2 – – – – – – – W P_n D	
2 litters	3 – – – – – – – W W P P_n D	17/17
3/4, 6/6	4 – – – – – – – ? W P_n D	
	5 – – – – – – – – W P P P_n D	
	6 – – – – – – – – ? ? W P P D	
	7 – – – – – – – – – – ? P P D	
	8 – – – – – – – – – – – W W D	
	9 – – – – – – – – – – – – ? P P P_n D	29/37
	sick runt	

F_1 — Rr

29/37

French Neurotropic Yellow Fever Virus – Controls FEB 9 1951

	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
10^{-1} – Swiss @ 6 wk old weaned 1/22/51 large mice	1	-	-	D																								
	2	-	-	PP	D																							
	3	-	-	PP	D																							
	4	-	-	PP	D																							
	5	-	-	-	D																							
	6	-	-	-	D																							
	7	-	-	-	D			-	-																			
	8	-	-	-	P_F	D		-	-																			
	9	-	-	-	P_F	D		-																				
	10	-	-	-	P_F	P_n	D																					
PRI @ 5 wk old weaned 2/6/51	1	-	-	-	-	-	PP	D																				
	2	-	-	-	-	-	PP	PP	D																			
	3	-	-	-	-	-	?	PP	D																			
	4	-	-	-	-	-	?	PP	P_n	P_n	D																	
	5	-	-	-	-	-	?	W	PP	PP	PP	PP	PP	D														
	6	-	-	-	-	-	-	W	W	W	W	W	W	W	-	-	-	-	-	-	-	-		-	-	-	-	-	
	7	-	-	-	-	-	-	?	W	W	?	-	?	-	-	-	-	-	-	-	-	-		-	-	-	-	-	
	8	-	-	-	-	-	-	-	W	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	
	9	-	-	-	-	-	-	-	?	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	
	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	
PRI old ♀ 9/20	1	-	-	-	-	-	?	D																				
	2	-	-	-	-	-	?	W	EE	EE	D																	
	3	-	-	-	-	-	-	W	W	EE	PP	D																
	4	-	-	-	-	-	-	?	W	W	PW	D																
	5	-	-	-	-	-	-	?	?	?	?	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	
	6	-	-	-	-	-	-	-	?	?	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	
	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	
	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	
	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	
	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	
10^{-6} Swiss @ 6 wk old weaned 1/22/51	1	-	-	-	-	D																						
	2	-	-	-	-	D																						
	3	-	-	-	-	D																						
	4	-	-	-	-	D																						
	5	-	-	-	-	CNS	D																					
	6	-	-	-	-	CNS	D																					
	7	-	-	-	-	CNS	D																					
	8	-	-	-	-	CNS	D																					
	9	-	-	-	-	CNS	CNS	D																				
	10	-	-	-	-	?CNS	CNS	CNS	?CNS	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	

D 3/14/51

(over)

10⁻⁶ PRI — 5 wk old, weaned 9/6/58

	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
1	-	-	-	-	-	-	?	W	P	P	P-	D																
2	-	-	-	-	-	-	-	?	W	P	P	D																
3	-	-	-	-	-	-	-	-	W	P	P	P	D															
4	-	-	-	-	-	-	-	-	?	?	?	?	PP	D														
5	-	-	-	-	-	-	-	-	?	-	-	-	(N)	D														
6	-	-	-	-	-	-	-	-	-	-	-	-	(N)	PP	D													
7	-	-	-	-	-	-	-	-	-	-	-	-	-	?	D													
8	-	-	-	-	-	-	-	-	-	-	-	-	-	?	W	D												
9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	?	W	W	?	-	-	?	?		-	?	?	?	-
10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-

PRI — old ♀

	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
1	-	-	-	-	-	-	-	?	?	?	?	W	W	W	W	D												
2	-	-	-	-	-	-	-	-	?	?	-	?	?	W	W	W	D											
3	-	-	-	-	-	-	-	-	-	-	-	?	?	?	?	W	W.	W	W	W.	-	-		-	-	-	-	-
4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	W	-	-	-	-	-	-		-	-	-	-	-
5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	?	-	-	-	-	-	-		-	-	-	-	-
6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	\	-	-	-	-	-	-		-	-	-	-	-
7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	\	-	-	-	-	-	-		-	-	-	-	-
8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	\	-	-	-	-	-	-		-	-	-	-	-
9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	^	-	-	-	-	-		-	-	-	-	-
10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-

French Neurotropic Yellow Fever Virus
in F_1 mice

MAR 23 1951

PURPOSE - To determine effect of this virus on large F_1 mice.

MICE - Type + weight of F_1 mice described below.
PRI mice as described below
Swiss mice as described below

VIRUS - Passage 252 frozen in B-1-1 since 11/21/50 2090
susp. in NRS. 10^{-1} Dilution prepared in 1090 RSS.
0.03 cc 10^{-1} Ice.

TYPE OF MOUSE	AVG. WEIGHT	NO OF MICE
A) F_1 ♀ (R♀ x S♂)	22.8 grams	8
B) F_1 ♀ (R♀ x S♂)	24.1 grams	8
C) F_1 ♀ (R♀ x S♂)	27.0 grams	5
D) F_1 ♂ (R♀ x S♂)	28.6 grams	3
E) F_1 ♀ (S♀ x R♂)	27.4 grams	9
F) F_1 ♀ (S♀ x R♂)	26.6 grams	9
G) F_1 ♂ (S♀ x R♂)	28.3 grams	7
H) PRI ♀	28.4 grams	10
I) PRI ♀	30,5 grams	10
J) CH. SWISS ♂	22.1 grams	7
K) CH. SWISS ♀	26.3 grams	10
L) MAX-SWISS ♀	29.5 grams	7

F_1 Mice — 10^{-1} French Neurotropic T.F

MAR 23 1951

	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
A	1	–	–	–	?	D																						
	2	–	–	–	–	WW	D																					
F_1 ♀ (R♀ × S♂)	3	–	–	/	–	CN	CN	CN	D																			
	4	–	–	–	–	?	CN	CN	PP CN	D																		
22.8 grams =	5	–	–	–	–	–	WW	?	?	?	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
AVG WT.	6	–	–	–	–	–	?	?	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	7	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	8	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
B	1	–	–	–	–	–	CN	D																				
	2	–	–	–	–	–	CN	D																				
F_1 ♀ (R♀ × S♂)	3	–	–	–	–	–	CN	D																				
	4	–	–	–	–	–	WW	D																				
24.1 grams =	5	–	–	–	–	–	WW	D																				
AVG WT.	6	–	–	–	–	–	–	CN	D																			
	7	–	–	–	–	–	–	CN	CN	CN	CN	D																
	8	–	–	–	–	–	–	CN	CN	CN	:	P	D															
C	1	–	–	–	–	–	CN	CN	CN	CN	D																	
	2	–	–	–	–	–	W	CN	CN	CN	D																	
F_1 ♀ (R♀ × S♂)	3	–	–	–	–	–	W	CN	?	:	CN	D																
	4	–	–	–	–	–	?	?	?	?	?	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
27.0 grams = AVG WT	5	–	–	–	–	–	?	?	?	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
D	1	–	–	–	–	–	?	?	?	?	?	:	?	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
F_1 ♂ (R♀ × S♂)	2	–	–	–	–	–	?	?	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
28.6 = AVG. WT.	3	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
E	1	–	–	–	–	–	D																					
	2	–	–	–	–	–	CN	PP	D																			
	3	–	–	–	–	–	CN	PP	D																			
F_1 ♀ (S♀ × R♂)	4	–	–	–	–	–	WW	PP	D																			
	5	–	–	–	–	WW	WW	PD	PP	D																		
AVG. WT = 27.4	6	–	–	–	–	–	CN	?	–	:	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	7	–	–	–	–	–	?	?	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	8	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	9	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
F	1	–	–	–	–	WW	D																					
	2	–	–	–	–	WW	D																					
F_1 ♀ (S♀ × R♂)	3	–	–	–	–	?	PP	D																				
	4	–	–	–	–	?	WW	D																				
	5	–	–	–	–	?	WW	PP	PP	PP	PP	D																
AVG. WT. = 26.6	6	–	–	–	–	–	CN	CN	?	?	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	7	–	–	–	–	–	?	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	8	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	9	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–

♀ Total 26 / 39 = 66.7%

F, MICE - 10^{-1} FRENCH NEUROTROPIC Y. F.

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	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
G	1	-	-	-	-	W	D																					
F, ♂ (S♀ x R♂)	2	-	-	-	-	-	D																					
	3	-	-	-	-	-	D																					
	4	-	-	-	-	-	W	D																				
AVG. WT. =	5	-	-	-	-	?	?	-	-	?	?	?	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
28.3 gm.	6	-	-	-	-	?	?	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

	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
H	1	-	-	-	-	?	?	D																				
	2	-	-	-	-	?	?	W	W	W	?	?	?	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	W	W	?	?	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PRI ♀	4	-	-	-	-	-	-	?	?	?	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	5	-	-	-	-	-	-	?	?	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
AVG. WT. =	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
28.4 gm.	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

	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
I	1	-	-	-	-	?	CNS	PP	D																			
	2	-	-	-	-	-	CNS	CNS	D																			
	3	-	-	-	-	?	CNS	W	W	?	PP	D																
PRI ♀	4	-	-	-	-	-	?	W	?	?	?	?	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	5	-	-	-	-	-	?	?	?	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	6	-	-	-	-	-	?	?	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
AVG WT.	7	-	-	-	-	-	?	?	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
= 30.5	8	-	-	-	-	-	-	?	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Strain of Mice	No. tested	No. dead (CNS)	%
Swiss	24	24	100
PRI	20	4	20
F_1	49	29	60

Suscept.
AA (aa)

PRI ♀ x ♂
1 -
2 -
3 -
4 -
5 -
6 -
7 -

FRENCH NEUROTROPIC 10-1

MAR 23 1951

	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
J	1	-	-	(N)	D																							
	2	-	-	(N)	D																							
	3	-	-	(N)	D																							
CH-SWISS ♂	4	-	-	?	D																							
	5	-	-	?	D																							
AVG. WT =	6	-	-	-	(N)	D																						
22.1	7	-	-	-	?	Pn	D																					
K	1	-	-	?	(N)	D																						
	2	-	-	?	D																							
	3	-	-	?	D																							
CH-SWISS ♀	4	-	-	-	(N)	D																						
	5	-	-	-	(N)	D																						
	6	-	-	-	(N)	D																						
	7	-	-	-	(N)	D																						
AVG. WT. = 26.3	8	-	-	-	(N)	D																						
	9	-	-	-	(N)	D																						
	10	-	-	-	(N)	D																						
L	1	-	-	PP	D																							
	2	-	-	PP	D																							
	3	-	-	?	D																							
	4	-	-	?	D																							
MAX SWISS ♀	5	-	-	-	Pn	D																						
	6	-	-	-	(N)	D																						
AVG. WT = 29.5	7	-	-	-	(N)	D																						

French Neurotropic Yellow Fever Virus
in old PRI ♂

APR 29 1951

PURPOSE - To obtain PRI ♂ mice resistant to French neurotropic yellow fever virus for subsequent breeding ♀ PRI ♀ + Swiss ♀.

VIRUS - French neurotropic Virus of 11/21/50 - Pass 252 - B-1-1
2090 — NRS. Dilution prepared — 1090 RSS.
0.03 cc 10^{-1} I Cb.

MICE - OLD PRI Males.

	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
1	-	-	-	-	(CNS)	D																						
2	-	-	-	-	-	-	-	(CNS)	D																			
3	-	-	-	-	-	-	-	(CNS)	D																			
4	-	-	-	-	-	-	-	W	D																			
5	-	-	-	-	-	-	-	W	D																			
6	-	-	-	-	-	-	-	(CNS)	D																			
7	-	-	-	-	-	-	-	(CNS)	D																			
8	-	-	-	-	-	-	-	W	D																			
9	-	-	-	-	-	-	-	PR	P	P	PP	D																
10	-	-	-	-	-	-	-	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
11	-	-	-	-	-	-	-	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
12	-	-	-	-	-	-	-	(CNS)	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
13	-	-	-	-	-	-	-	W	W	W	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14	-	-	-	-	-	-	-	W	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
29	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
31	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

mated ♀ PRI ♂'s + W-Swiss ♂'s 5/25/51

9/31 = 29%

OVER

French Newsstand [illegible] 4-29

C.H. albino

Passage 253

	1	2	3	4	5	6	
1	-	-	-	?	(M)		
2	-	-	-	?	(M)		
3	-	-	-	?	(M)		
4	-	-	-	?	(M)		
5	-	-	-	?	(M)		
6	-	-	-	-	(M)	D	
7	-	-	-	-	(M)	D	
8	-	/	-	-	(M)	D	
9	-	-	-	-	(M)	D	
10	-	-	-	-	(M)	D	

@ 7 wks old

Har 3/4/51 - Brain ground a 2070 — NRS + 5 amps of 2000 SN [illegible]. B-1-1 BAP-000

Multiplication of French Neurotropic Yellow Fever Virus in Nervous System of PRI Mice

Procedure: Inject 0.03 cc of 10^{-2} dilution of Pass 253 of French neurotropic virus ~~mice~~ of 5-4-51 into 20 PRI mice about 3-4 weeks of age

At indicated intervals sacrifice mice, remove brain and spinal cord and titer for content of virus in individual mice.

4 days – sacrifice 3 mice without CNS signs = 90 mice
6 " – " " " " " " " = 90 "
8 " – " " " " " " " = 90 "

Also sacrifice any mice at onset of definite CNS signs and titer them individually.

Titrations are to be carried out on day of harvest; inoculate 10^{-1}, 10^{-2}, 10^{-3}, 10^{-4}, 10^{-5}, 10^{-6}

PRI MICE

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	
Box #1 10^{-2}	1	–	–	–																		Hom & ~~Brain~~ titered individually
	2	–	–	–																		
	3	–	–	–																		
	4	–	–	–	–	–	–															Hom (Brain + Cord) + titered individually
	5	–	–	–	–	–	–															
	6	–	–	–	–	–	–															
	7	–	–	–	–	–	–	–	–													Hom (Brain + Cord) + titered individually
	8	–	–	–	–	–	–	–	–													
	9	–	–	–	–	–	–	–	–													
	10	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	

□1 BAP - 000
□2 BAP - 000
□3 BAP - 000

#1 BAP - 000
□2 BAP - 000
#3 BAP - 000

#1 BAP - 000
#2 BAP - 000
#3 BAP - 000

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	
Box #2 10^{-2}	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	
	2	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	
	3	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	
	4	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	
	5	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	
	6	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	
	7	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	
	8	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	
	9	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	
	10	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	

Titration of
French Neurotropic Yellow Fever from
4 DAY PRI M#1, #2, #3

JUL 16 1951

PURPOSE - To determine the level of multiplication of this virus in the brain & cord of PRI mice.

VIRUS Cords & Brains of 3 PRI mice, inoculated 7/12/51 c French Neurotropic yellow fever 10^{-2} I.C.c, harvested & ground individually in NRS #10%. 1090 RSS used for dilutions. Portion of 1090 frozen.

M#1 BAP - 000
M#2 BAP - 000
M#3 BAP - 000

(MICE SHOWED NO CNS SIGNS)

MICE - 3 - 4 week old W-Swiss.

From 4 day PRI M#1 — 4.2

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
10^{-1}	1	-	-	-	D																
	2	-	-	-	D																
	3	-	-	-	D																
	4	-	-	-	(N)	D															
	5	-	-	-	(N)	D															
10^{-2}	1	-	?	D																	
	2	-	-	-	D																
	3	-	-	-	(N)	D															
	4	-	-	-	(N)	D															
	5	-	-	-	(N)	D															
10^{-3}	1	-	-	-	(N)	D															
	2	-	-	-	(N)	D															
	3	-	-	-	?	D															
	4	-	-	-	?	D															
	5	-	-	-	-	D															
10^{-4}	1	-	-	-	-	D															
	2	-	-	-	-	D															
	3	-	-	-	-	(N)	D														
	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10^{-5}	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10^{-6}	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

4.2

[redacted] W-SWISS French neurotropic yellow fever

JUL 16 1951

3.8

4 day PRI M #2

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21

10^{-1}
1 - - - - PP D
2 · - · - PP D
3 - - - - (N) D
4 · - - - (N) D
5 · - - · (N) D

10^{-2}
1 - - - - D
2 · - - - D
3 · - - - (N) D
4 · - - - (N) D
5 · - · - ? D

10^{-3}
1 - - - · ? D
2 · · - - - D
3 · - - - - Pn D
4 · - - - - (N) D
5 · - - · - (N) D

10^{-4}
1 - - - · · (N) D
2 · - - - - ? D
3 · · - - · - - · - · · - · - - - - - - · - -
4 · - - - · · · · - · · · · - - - - - - · - -
5 · - · - - · · · · · · · · - - - - - - · - -

10^{-5}
1 D
2 · - - · · · - - - · - · - - - - - - - - -
3 · - - - · · - · - · · · - - - - · - - · - -
4 · - - - - · - · · · · · - - - - - - - · - -
5 · - - - - · - - · · · · · - - - - - - · - -

10^{-6}
1 - - · · · - - · · · - · - - - - - - - · - -
2 - - - - - - - - - - · · · - - - - - - · - -
3 - - - - - - - - · · · - - - - - - - - · - -
4 - - - · · - - - · · · - · - - - - - - · - -
5 - - - - - - - - · · · · · - - - - - - · - -

French neurotropic yellow fever

JUL 16 1951

4 day PRI M #3

3.8

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
10^{-1}	1	·	–	·	D																	
	2	·	–	–	·	D																
	3	·	–	–	–	PP	PP	D														
	4	·	–	–	–	CNS	D															
	5	·	–	–	–	CNS	D															
10^{-2}	1	·	–	–	–	PP	D															
	2	·	–	–	–	CNS	D															
	3	·	–	–	–	CNS	D															
	4	·	–	–	–	CNS	D															
	5	·	–	–	–	·	D															
10^{-3}	1	·	–	–	·	D																
	2	·	–	–	–	CNS	D															
	3	·	–	–	–	·	D															
	4	·	–	–	–	·	P															
	5	·	–	–	·	–	P	D														
10^{-4}	1	·	–	–	–	–	D															
	2	·	–	–	–	–	·	D														
	3	·	–	–	–	–	–	–	–	·	–	–	·	–	–	·	–	–	·	–	–	–
	4	·	–	–	–	–	–	–	·	·	·	–	·	–	–	·	–	–	·	–	–	–
	5	·	–	–	–	–	–	–	·	·	·	–	·	–	–	·	–	–	·	–	–	–
10^{-5}	1	D		·	·																	
	2	·	–	·	–	–	·	–	–	–	·	·	·	–	–	·	–	D				
	3	·	–	–	–	–	·	–	·	·	·	·	·	–	–	·	–	–	·	–	–	–
	4	·	–	–	–	–	·	·	·	·	·	·	·	–	–	·	–	–	·	–	–	–
	5	·	–	–	–	–	·	–	·	·	·	·	·	–	–	·	–	–	·	–	–	–
10^{-6}	1	·	–	·	·	–	·	–	·	·	·	·	·	–	–	·	–	–	·	–	–	–
	2	·	–	–	–	–	·	·	·	·	·	·	·	–	–	·	–	–	·	–	–	–
	3	·	–	–	–	–	·	·	·	·	·	·	·	–	–	·	–	–	·	–	–	–
	4	·	–	–	–	–	·	·	·	·	·	·	·	–	–	·	–	–	·	–	–	–
	5	·	–	–	–	–	·	–	·	·	·	·	·	–	–	·	–	–	·	–	–	–

Titration of French Neurotropic Yellow Fever
From 6 day PRI M#1, #2, #3

JUL 18 1951

PURPOSE - To determine the level of multiplication of this virus in the brain + cord of PRI mice.

Virus - Cords + brains of 3 PRI mice, inoculated $\bar{c}$ French neurotropic yellow fever 10^{-2} I.Ce., harvested + ground individually in NRS to 10%. 10% NRS for dilution. Portion of 10% frozen.
(MICE SHOWED NO CNS SIGNS)

M#1 BAP - 0 0 0
M#2 BAP - 0 0 0
M#3 BAP - 0 0 0

MICE - 8-10 gm. ~~[illegible]~~ Webster field albino

From 6 day PRI M#1

4.4

Dilution	Mouse	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
10^{-1}	1	-	-	-	-	D																
	2	-	-	-	-	D																
	3	-	-	-	-	D																
	4	-	-	-	-	D																
	5	-	-	-	-	CNS	D															
10^{-2}	1	-	-	-	-	D																
	2	-	-	-	-	D																
	3	-	-	-	-	D																
	4	-	-	-	-	D																
	5	-	-	-	-	D																
10^{-3}	1	-	-	-	-	D																
	2	-	-	-	-	D																
	3	-	-	-	-	D																
	4	-	-	-	-	?	D															
	5	-	-	-	-	-	? CNS	D														
10^{-4}	1	-	-	-	-	D																
	2	-	-	-	-	-	?	D														
	3	-	-	-	-	-	-	D														
	4	-	-	-	-	-	-	CNS	D													
	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10^{-5}	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10^{-6}	1	-	-	-	-	-	-	-	-	-	-	D										
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

French Neurotropic Yellow Fever

From 6 day PRI M#2

JUL 18 1951

4.4

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
10^{-1}	1	-	-	-	D																
	2	-	-	-	D																
	3	-	-	-	D																
	4	-	-	-	D																
	5	-	-	-	P_n																
10^{-2}	1	-	-	-	D																
	2	-	-	-	D																
	3	-	-	-	D																
	4	-	-	-	D																
	5	-	-	-	D																
10^{-3}	1	-	-	-	D																
	2	-	-	-	D																
	3	-	-	-	D																
	4	-	-	-	(N)	D															
	5	-	-	-	(N)	D															
10^{-4}	1	-	-	-	-	D															
	2	-	-	-	-	(N)	D														
	3	-	-	-	-	-	D														
	4	-	-	-	-	-	(N)	?													
	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10^{-5}	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10^{-6}	1	-	-	-	D																
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

French Xenotropic Yellow Fever

JUL 18 1951

From 6 day PRI #3

4.2

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
10^{-1}	1	-	-	-	-	D															
	2	-	-	-	-	D															
	3	-	-	-	-	D															
	4	-	-	-	-	D															
	5	-	-	-	-	D															
10^{-2}	1	-	-	-	-	D															
	2	-	-	-	-	D															
	3	-	-	-	-	(N)	D														
	4	-	-	-	-	(N)	D														
	5	-	-	-	-	(N)	D														
10^{-3}	1	-	-	-	-	D															
	2	-	-	-	-	(N)	D														
	3	-	-	-	-	(N)	D														
	4	-	-	-	-	(N)	D														
	5	-	-	-	-	-	(N)	D													
10^{-4}	1	-	-	-	-	(N)	D														
	2	-	-	-	-	-	D														
	3	-	-	-	-	-	-	-	-	-	-	-	D								
	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10^{-6}	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10^{-6}	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Titration of French Neurotropic Yellow Fever
From 8 day PRI M#1, #2, #3

JUL 20 1951

PURPOSE - To determine the level of multiplication of this virus in the brain + cord of PRI mice.

VIRUS - Cords + brains of 3 PRI mice, inoculated ē French Neurotropic Yellow fever 10^{-2} I.C.e., harvested + ground individually in NRS to 1090. 1090RSS for dilutions. Portion of 10% prepn.
(MICE SHOWED NO CNS SIGNS)

M#1 - BAP - 000
M#2 - BAP - 000
M#3 - BAP - 000

MICE - 8-10 gram mx/field alpino

From 8 day PRI M#1

3.3

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
10^{-1}	1	-	-	-	-	Pn	D														
	2	-	-	-	·	CNS	D														
	3	-	·	-	·	CNS	D														
	4	·	-	·	·	CNS	D														
	5	·	-	·	·	CNS	D														
10^{-2}	1	-	-	-	-	D															
	2	·	-	·	·	D															
	3	-	·	-	·	Pn	D														
	4	·	-	·	·	(CNS)	D														
	5	-	-	·	·	·	D														
10^{-3}	1	-	·	·	·	-	D														
	2	·	-	·	·	-	D														
	3	-	·	·	·	-	CNS	D													
	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	5	-	·	-	·	·	·	·	·	-	-	-	-	-	-	-	-	-	-	-	-
10^{-4}	1	·	-	·	·	-	D														
	2	-	·	·	·	-	-	·	·	-	-	-	-	-	-	-	-	-	-	-	-
	3	·	-	·	·	·	-	·	·	·	-	-	-	-	-	·	-	·	-	-	-
	4	-	-	·	·	·	·	·	·	·	-	-	-	-	-	·	-	·	-	-	-
	5	-	-	·	·	·	·	·	·	·	-	-	-	-	-	·	-	·	-	-	-
10^{-5}	1	-	-	-	-	-	·	-	·	·	·	-	D								
	2	-	-	·	·	-	·	·	·	·	-	-	-	-	-	·	-	·	-	-	-
	3	-	-	·	·	·	·	·	·	·	-	-	-	-	-	·	-	·	-	-	-
	4	-	-	·	·	·	·	·	·	·	-	-	-	-	-	·	-	·	-	-	-
	5	-	-	·	·	·	·	·	·	·	-	-	-	-	-	·	-	·	-	-	-
10^{-6}	1	-	-	·	·	-	·	·	·	·	-	-	-	·	-	·	-	·	-	-	-
	2	-	-	·	·	·	·	·	·	·	-	-	-	·	-	·	-	·	-	-	-
	3	-	-	·	·	·	·	·	·	·	-	-	-	·	-	·	-	·	-	-	-
	4	-	-	·	·	·	·	·	·	·	-	-	-	·	-	·	-	·	-	-	-
	5	-	-	·	·	·	·	·	·	·	-	-	-	·	-	·	-	·	-	-	-

French neurotropic yellow Fever

JUL 20 1951

From 8 day PRI MF#2

2.5

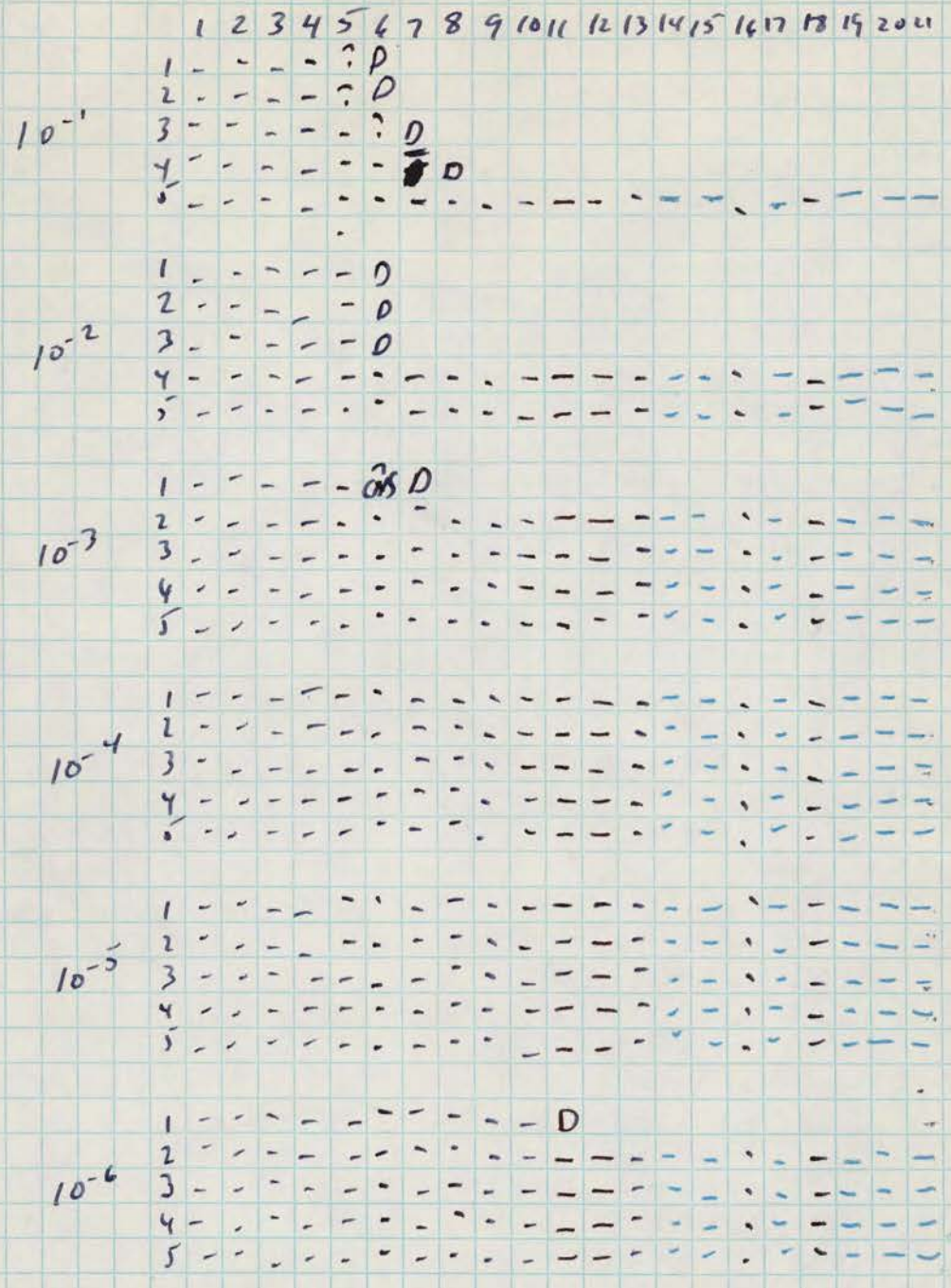
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
10^{-1}	1	–	–	.	D																
	2	–	–	.	–	(N)	D														
	3	–	–	.	–	(N)	P$_n$	D													
	4	–	–	.	–	?	(N)	D													
	5	–	–	.	–	.	–	.	–	–	D										
10^{-2}	1	–	.	–	–	?	D														
	2	–	–	.	–	?	D														
	3	–	.	–	–	?	D														
	4	–	–	–	–	–	–	.	–	D											
	5	–	.	–	.	.	.	–	–	–	–	–	–	–	–	–	–	–	–	–	–
10^{-3}	1	–	.	–	–	–	.	D													
	2	–	–	–	–	.	.	–	.	–	–	–	–	–	.	–	–	–	–	–	–
	3	–	–	–	–	.	.	.	–	–	–	–	–	–	.	–	–	–	–	–	–
	4	–	.	–	–	.	–	.	,	–	–	–	–	–	.	–	–	–	–	–	–
	5	–	.	–	–	.	.	.	–	–	–	–	–	–	.	–	–	–	–	–	–
10^{-4}	1	–	.	–	–	–	.	.	.	–	–	–	–	–	.	–	–	–	–	–	–
	2	–	.	–	–	–	.	.	.	–	–	–	–	–	.	–	–	–	–	–	–
	3	.	–	–	–	–	.	.	–	–	–	–	–	–	.	–	–	–	–	–	–
	4	.	–	–	–	–	.	.	–	–	–	–	–	–	.	–	–	–	–	–	–
	5	–	–	.	–	–	.	.	.	–	–	–	–	–	.	–	–	–	–	–	–
10^{-5}	1	–	–	–	–	.	.	–	–	–	–	–	–	.	–	–	–	–	–	–	–
	2	–	–	–	–	.	.	.	–	–	–	–	–	.	–	–	–	–	–	–	–
	3	–	–	–	–	.	.	.	–	–	–	–	–	.	–	–	–	–	–	–	–
	4	–	–	.	–	–	.	.	.	–	–	–	–	.	–	–	–	–	–	–	–
	5	–	–	.	–	–	.	.	.	–	–	–	–	.	–	–	–	–	–	–	–
10^{-6}	1	–	–	–	–	–	.	.	.	–	–	–	–	.	–	–	–	–	–	–	–
	2	–	–	–	–	–	.	.	.	–	–	–	–	.	–	–	–	–	–	–	–
	3	–	–	–	–	–	.	.	.	–	–	–	–	.	–	–	–	–	–	–	–
	4	–	–	–	–	–	.	.	.	–	–	–	–	.	–	–	–	–	–	–	–
	5	–	–	–	–	–	.	.	.	–	–	–	–	.	–	–	–	–	–	–	–

French Neutropic Yellow Fever

JUL 20 1951

From 8 day PRI #3

2.1



Genetic Basis of Special Susceptibility of Nervous System to Damage at Low Levels of Viral Multiplication

Outline of Breeding Experiment to Determine Genetic Aspects of Factor which Renders Mice Susceptible to French Neurotropic Virus (Yellow Fever) at Low Level of Multiplication

1. Inoculate 30 old PRI males with French Neurotropic Yellow Fever Virus 4/24/45

2. Save Completely resistant Males.

3. Breed PRI ♀ + Resistant PRI ♂

   Then Individual PRI ♀ + Their litters to be tested with F. N. Y. F. virus

   Try for 20 such ♀ — (2 ♀ + 1 ♂ per box)

4. Breed Swiss ♀ + Resistant PRI ♂

   as under 3

JUL 25 1951

FRENCH NEUROTROPIC YELLOW FEVER VIRUS

IN W-SWISS MOTHERS & PROGENY (W-SWISS ♀ × FR. N.Y.F. RES. PRI ♂)

VIRUS - French neurotropic yellow fever virus of 5/4/51 - 20% in NRS 10⁻¹ in 10% RSS used for this test. B-1-1

MICE - W-S WISS ♀'s, & their litters (described below), which were bred & French neurotropic yellow fever resistant PRI males. @ 6 wk old PRI & @ 6 wk old W-Swiss (Controls)

		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
SWISS MOTHER		-	-	-	D																								
Litter of 8 - 6/14/51 (S♀ × Res. PRI♂)	1 ♂	-	-	-	-	-	CNS	?	?	?	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2 ♂	-	-	-	-	-	CNS	?	?	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3 ♂	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	4 ♀	-	-	-	-	-	CNS	CNS	CNS	?	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	5 ♀	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SWISS MOTHER		-	-	-	D																								
Litter of 8 - 6/15 (S♀ × Res. PRI♂)	1 ♀	-	-	-	CNS	D																							
	2 ♂	-	-	-	-	CNS	D																						
	3 ♀	-	-	-	-	-	D																						
	4 ♀	-	-	-	-	-	CNS	CNS	CNS	D																			
	5 ♂	-	-	-	-	-	CNS	D																					
	6 ♂	-	-	-	-	-	CNS	D																					
SWISS MOTHER		-	-	-	D																								
Litter of 5 - 6/16 (S♀ × Res. PRI♂)	1 ♀	-	-	-	-	-	?	?	?	?	-	-	*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2 ♀	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3 ♂	-	-	-	-	-	CNS	D																					
	4 ♂	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	5 ♂	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SWISS MOTHER		-	-	-	CNS	D																							
Litter of 7 - 6/18 (S♀ × Res. PRI♂)	1 ♀	-	-	-	-	-	CNS	Pr.	D																				
	2 ♀	-	-	-	-	-	?	CNS	D																				
	3 ♀	-	-	-	-	-	-	?	CNS	CNS	CNS	D	*																
	4 ♀	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	5 ♂	-	-	-	-	-	-	CNS	CNS	CNS	D																		
	6 ♂	-	-	-	-	-	-	-	-	?	CNS	CNS	D																
	7 ♂	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

* Boxes Cleaned 8/6/51 by Preston Mupe; mice from Box of 6/18 mixed & mice of 6/16. (Box of 6/18 empty - discarded).

(COVER)

French Neurotypic Yellow Fever

JUL 25 1951

W- SWISS Controls

10^{-1}

	1	2	3	4	5
1	D				
2	-	-	-	D	
3	-	-	-	CNS	D
4	-	-	-	CNS	D
5	-	-	-	CNS	D
6	-	-	-	CNS	D
7	-	-	-	CNS	D
8	-	-	-	CNS	D
9	-	-	-	CNS	D
10	-	-	-	CNS PP	D

PRI Controls

10^{-1}

	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
1	-	-	-	-	-	-	?	CNS	D																			
2	-	-	-	-	-	-	?	CNS	CNS	CNS	D																	
3	-	-	-	-	-	-	?	CNS	CNS	CNS	CNS	?	?	?	?	-	-	-	-	-	-	-	-	-	-	-	-	-
4	-	-	-	-	-	-	-	?	?	?	?	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	-	-	-	-	-	-	-	?	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

If mother dies - two possibilities on hypothesis of single dominant gene for susceptibility

Sr + rr = Sr + rr = 50% resistant

SS + rr = Sr + Sr = 100% die.

If mother survives — then:

rr + rr = rr — all should survive

FRENCH NEUROTROPIC YELLOW FEVER VIRUS IN PRI MOTHERS & PROGENY (PRI ♀ x F1 N.Y.F.Rs. PRI ♂)

VIRUS - French Neurotropic Yellow Fever virus of 5/4/51 - 2070 - NRS-B-1-1 10^{-1} in 10% RSS used in this test

MICE - PRI females, & their litter described below, which were bled = French neurotropic yellow fever resistant PRI males.
- @ 6 wk old PRI + @ 6 wk old W-Swiss (control)

		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
PRI MOTHER		-	-	-	-	-	-	-	:	?	?	?	-	-	-	-	?	-	-	-	-	-	-	-	-	-	-	-	-
Litter of 8 - 6/16/51 (R♀ x Res. R♂)	1 ♀	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	?	-	-	-	-	-	-	-	-	-	-	-	-
	2 ♀	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3 ♀	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	4 ♀	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
(1)	5 ♀	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	6 ♂	-	-	-	-	-	-	CNS	D																				
	7 ♂	-	-	-	-	-	-	?	(CNS)	D																			
	8 ♂	-	-	-	-	-	-	?	:	?	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PRI MOTHER		-	-	-	-	-	-	-	:	?	?	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Litter of 7 - 6/16/51 (R♀ x Res. R♂)	1 ♀	-	-	-	-	-	?	CNS	D																				
	2 ♀	-	-	-	-	-	-	CNS	(CNS)	-	?	-	D																
	3 ♀	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	4 ♂	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
(2)	5 ♂	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	6 ♂	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	7 ♂	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PRI MOTHER		-	-	-	-	-	?	CNS	Pn	D																			
Litter of 6 - 6/17/51 (R♀ x Res. R♂)	1 ♀	-	-	-	-	-	?	CNS	D																				
	2 ♀	-	-	-	-	-	?	CNS	D																				
	3 ♀	-	-	-	-	-	-	?	(CNS)	CNS	D																		
	4 ♂	-	-	-	-	-	CNS	CNS	D																				
	5 ♂	-	-	-	-	-	?	?	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	6 ♂	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PRI MOTHER		-	-	-	-	-	?	?	(CNS)	?	CNS	W	W	?	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Litter of 6 - 6/18/51 (R♀ x Res. R♂)	1 ♀	-	-	-	?	CNS	D																						
	2 ♀	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PRI MOTHER		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Litter of 3 - 6/18/51 (R♀ x Res. R♂)	1 ♀	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2 ♂	-	-	-	-	-	?	PP	PP	PPPP	PP	Pn	D																
	3 ♂	-	-	-	-	-	-	W	W	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Mothers dead - 7/18 - 3 Litt
13/39 - 7 Litt

OVER

French Neurotropic Yellow Fever

Litter	Animal	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
	PRI MOTHER	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Litter of 9 - 6/18	1 ♀	-	-	-	-	-	-	CNS	CNS	D																			
	2 ♀	-	-	-	-	-	-	-	CNS?	CNS	D																		
	3 ♀	-	-	-	-	-	-	-	-	-	?	?	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	4 ♀	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	5 ♂	-	-	-	-	-	-	?	?	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	6 ♂	-	-	-	-	-	-	?	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	7 ♂	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	PRI MOTHER	-	-	-	-	-	-	CNS	D																				
Litter of 8 - 6/21	1 ♀	-	-	-	-	-	-	W	CNS	CNS	D																		
	2 ♀	-	-	-	-	-	-	CNS?	CNS	CNS	(CN)	(CN)	CNS?	D															
	3 ♀	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	4 ♂	-	-	-	-	-	-	?	?	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	5 ♂	-	-	-	-	-	-	?	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	6 ♂	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	7 ♂	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	8 ♂	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	PRI MOTHER	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Litter of 10 - 6/21	1 ♀	-	-	-	-	-	RP	D																					
	2 ♀	-	-	-	-	-	?	CNS	D																				
	3 ♀	-	-	-	-	-	?	CNS	CNS	CNS	D																		
	4 ♀	-	-	-	-	-	-	?	(CN)?	?	?	?	-	?	?	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	5 ♀	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	6 ♂	-	-	-	-	-	PP	D																					
	7 ♂	-	-	-	-	-	CNS?	CNS	D																				
	PRI MOTHER	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Litter of 5 - 6/22	1 ♀	-	-	-	-	-	-	?	?	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2 ♀	-	-	-	-	-	-	?	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3 ♀	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	4 ♀	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	5 ♂	-	-	-	-	-	-	-	?	?	?	?	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	PRI MOTHER	-	-	-	-	-	-	?	(CN)	D																			
Litter of 5 - 6/20	1 ♂	-	-	-	-	-	-	CNS?	D	D																			
	2 ♂	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3 ♂	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	4 ♂	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

French Neurospora Yellow Fever

JUL 25 1951

W-SWISS CONTROLS

10^{-1}

	1	2	3	4	5
1	D				
2	–	·	·	D	
3	–	·	·	(N)	D
4	–	·	–	(N)	D
5	–	·	·	(N)	D
6	–	·	–	(N)	D
7	–	·	·	(N)	D
8	–	·	–	(N)	D
9	–	·	·	(N)	D
10	–	–	–	(N)	CNS PP D

PRI CONTROLS

	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
1	–	·	·	·	–	–	?	(N)	D																			
2	–	·	·	·	–	–	?	(N)	CNS	CNS WW	CNS W	D																
3	–	–	–	·	–	–	?	(N)	CNS	CNS WW	CNS W	?	?	?	?	?	–	·	·	–	–	–	–	–	·	–	–	–
4	–	·	–	·	–	–	–	?	?	?	?	·	–	·	–	–	·	·	–	·	–	–	·	–	·	–	–	–
5	–	·	–	·	·	–	–	?	–	·	·	–	–	·	–	·	–	·	–	·	–	–	·	–	·	–	–	–
6	–	·	·	·	–	–	–	·	–	·	·	·	–	·	·	–	·	·	–	·	–	–	·	–	·	–	–	–
7	–	·	–	·	–	–	–	·	–	·	·	·	–	·	–	–	·	·	–	·	–	–	·	–	·	–	–	–
8	–	·	·	·	–	–	–	·	–	·	·	·	–	·	–	–	·	·	–	·	–	–	·	–	·	–	–	–
9	–	·	–	·	–	–	–	·	–	·	·	·	–	·	–	–	·	·	–	·	–	–	·	–	·	–	–	–
10	–	·	–	·	–	–	–	·	–	·	·	·	–	·	–	–	·	·	–	·	–	–	·	–	·	–	–	–

FRENCH NEUROTROPIC YELLOW FEVER VIRUS

IN W-SWISS MOTHERS & PROGENY (W-SWISS ♀ x F. N.Y.F. RES. PRI ♂)

VIRUS - French neurotropic yellow fever virus of 5/4/51 - 2070 - NRS. 10^{-1} in 1070 RSS used for this test. B-1-1

MICE - W-Swiss ♀'s, & their litter (described below), which were fed E French neurotropic yellow fever resistant PRI males.
@4-5 wk old PRI & @ 6 wk old W-Swiss (Controls)

		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
MOTHER		-	-	-	(CN)	D																							
Litter of 7-7/2/51	1 ♀	-	-	-	-	-	?	PP. D																					
	2 ♀	-	-	-	-	-	-	?	?	?	?	?	-	-	?	(CN)	?	?	?	?	-	-	-	-	-	?	?	?	
(S ♀ x R ♂ PRI ♂)	3 ♂	-	-	-	-	-	-	(?)	PP	D																			
	4 ♂	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	5 ♂	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MOTHER		-	-	-	(CN)	D																							
Litter of 8-7/5	1 ♀	-	-	-	-	-	(CN)	D																					
	2 ♀	-	-	-	-	-	?	?	?	?	-	-	?	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
(S ♀ x R ♂ PRI ♂)	3 ♀	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	4 ♀	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	5 ♀	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	6 ♀	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	7 ♂	-	-	-	-	(CN)	D																						
	8 ♂	-	-	-	-	-	PP CNS	D																					
NO MOTHER																													
Litter of 9-7/7	1 ♀	-	-	-	D																								
	2 ♀	-	-	-	(CN)	D																							
(S ♀ x R ♂ PRI ♂)	3 ♀	-	-	-	(CN)	D																							
	4 ♀	-	-	-	(CN)	D																							
mother dead.	5 ♂	-	-	-	D																								
	6 ♂	-	-	-	D																								
	7 ♂	-	-	-	(CN)	D																							

W-SWISS CONTROLS

	1	2	3	4	5
1	-	-	PP	D	
2	-	-	-	D	
3	-	-	-	D	
4	-	-	-	D	
5	-	-	-	(CN)	D
6	-	-	-	(CN)	D
7	-	-	-	(CN)	D
8	-	-	-	(CN)	D
9	-	-	-	(CN)	D
10	-	-	-	(CN)	D

French Neurotropic Yellow fever

AUG 13 1951

PRI Controls

	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
1	–	–	–	–	–	–	–	?	W	?	?	2	D															
2	–	–	–	–	–	–	–	2	?	–	?	2	?	–	–	2	?	?	2	–	–	–	–	–	–	–	–	
3	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	2	–	–	–	–	–	–	–	–	–	
4	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	
5	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	
6	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		
7	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	
8	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	
9	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	
10	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	

FRENCH NEUROTROPIC YELLOW FEVER VIRUS IN PRI MOTHERS & PROGENY (PRI ♀ × FR. N.Y.F. Res PRI ♂)

VIRUS - "French neurotropic yellow Fever virus of 5/4/51 - 20% (NR) 10^{-1} in 10% RSS used for this test. B-1-1

MICE - PRI ♀'s & their litters (described below), which were bled & "French neurotropic yellow fever resistant" PRI males.
@ 4-5 wk old PRI & @ 6 wk old W-Swiss (controls).

Litter of 7-6/28 (PRI ♀ × Res PRI ♂)

	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
MOTHER	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
2	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
3	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
4	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
5	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–

Litter of 7-7/6/51 (PRI ♀ × Res PRI ♂)

	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
MOTHER	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
1 ♀	–	–	–	–	–	–	?	CNS	?	W	W	W	W	W	W	W	W	W	W	–	?	?	?	–	–	–	–	–
2 ♀	–	–	–	–	–	–	?	?	?	W	W	W	W	W	W	W	W	W	W	?	?	?	?	–	–	–	–	–
3 ♀	–	–	–	–	–	–	–	?	–	?	?	?	?	?	?	?	?	?	?	–	–	–	–	–	–	–	–	–
4 ♀ ♂	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
5 ♂	–	–	–	–	–	–	?	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
6 ♂	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–

W-SWISS CONTROLS

	1	2	3	4	5
1	–	–	PP	D	
2	–	–	–	D	
3	–	–	–	D	
4	–	–	–	D	
5	–	–	–	CNS	D
6	–	–	–	CNS	D
7	–	–	–	CNS	D
8	–	–	–	CNS	D
9	–	–	–	CNS	D
10	–	–	–	CNS	D

PRI CONTROLS

	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
1	–	–	–	–	–	?	?	W	?	?	?	D																
2	–	–	–	–	–	–	?	?	–	?	?	–	–	?	–	?	?	–	–	–	–	–	–	–	–	–	–	–
3	–	–	–	–	–	–	–	–	–	–	–	–	–	–	?	–	–	–	–	–	–	–	–	–	–	–	–	–
4	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
5	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
6	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
7	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
8	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
9	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
10	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–

FRENCH NEUROTROPIC YELLOW FEVER VIRUS IN W-SWISS MOTHERS + PROGENY (W-SWISS ♀ X Fr. N.Y.F. Res. RRI ♂)

VIRUS - French neurotropic Yellow Fever Virus of 5/4/51 - 20% in N.R.S. - B-1-1
10^{-1} in 10% R.S.S. used for this test.

MICE - W-Swiss ♀'s and their litters (described below) which were bred ♂ French Neurotropic Yellow Fever resistant ♂'s.

@ 4-5 wk. old P.R.I and 4-5 wk old Swiss controls.

		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
MOTHER		-	-	-	W	D																							
Litter of 9-7/15	♀ 1	-	-	-	-	W	W	P	P	P	P	D																	
	♀ 2	-	-	-	-	W	W	2 CNS	2 CNS	2 CNS	2 CNS	2 CNS	2 CNS	2 CNS	2 CNS	2 CNS	2 CNS	2 CNS	2 CNS	2 CNS	2 CNS	2 CNS	2 CNS	2 CNS	2 CNS	2 CNS	2 CNS	2 CNS	D
	♀ 3	-	-	-	-	-	-	-	-	-	-	2	=	W	W	2 CNS	CNS	W	W	W	W	W	W	W	W	W	W	W	W
	♀ 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-
(S-♀ x Res P.R.I ♂)	♀ 5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	♀ 6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	♂ 7	-	-	-	-	2	2	2 CNS	CNS	CNS	2 CNS	-	-	2 CNS	CNS	2	2 CNS	2 CNS	2 CNS	2 CNS	2 CNS	2 CNS	2 CNS	2 CNS	2 CNS	2 CNS	2 CNS	2 CNS	CNS	CNS
	♂ 8	-	-	-	-	-	-	W	2	2	-	-	-	-	-	-	-	-	-	-	2	2	-	-	-	-	-	-	-
MOTHER		-	-	-	PP	D																							
Litter of 11-8/1	♀ 1	-	-	-	2	2	2	E	2	W	W	W	2	2	2	2	2	2	2	2	2 CNS	2	2 CNS	2	2	2	2	-	2
	♀ 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	♀ 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
(S-♀ x Res. P.R.I ♂)	♂ 4	-	-	-	-	-	-	2	W	W	W	P	W	P	P	P	P	W	P	W	P	W	P	W	P	W	P	W	W
	♂ 5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	♂ 6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

W-SWISS CONTROLS - 10^{-1}

	1	2	3	4	5
1	-	-	D		
2	-	-	D		
3	-	-	PP	D	
4	-	-	CNS	D	
5	-	-	CNS	D	
6	-	-	CNS	CNS	D
7	-	-	CNS	CNS	D
8	-	-	2 CNS	CNS	D
9	-	-	-	CNS	D
10	-	-	-	2 CNS	D

P.R.I. CONTROLS 10-1

	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
1																												
2																												
3																												
4																												
5																												
6																												
7																												
8																												
9																												
10																												

SEP 13 1951

FRENCH NEUROTROPIC YELLOW FEVER VIRUS IN P.R.I. MOTHERS + PROGENY (PRI ♀ X FR.N.Y.F. Res P.R.I. ♂)

VIRUS - French Neurotropic Yellow Fever Virus of 5/4/51 - 20% in N.R.S. B-1-1

MICE - P.R.I ♀'s + their litters (described below) which were bred ⊂ French Neurotropic Yellow Fever Resistant ♂'s.

@ 4-5 wk. old PR.I + 4-5 wk old Swiss Controls

		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
MOTHER		-	-	-	-	-	?	-	-	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	2	2
Litter of 8-8/1	♀ 1	-	-	-	-	-	E	2	2	2	2	?	?	2	-	-	-	-	2	2	2	2	2	2	2	-	-	2	
	♀ 2	-	-	-	-	-	PPPPP			D																			
	♀ 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	♂ 4	-	-	-	-	2 CNS	CNS	D																					
	♂ 5	-	-	-	2	2	?	2 CNS	2 CNS	2	2	2	2	-	-	-	-	-	2	-	2	2	-	-	-	-	-	-	
	♂ 6	-	-	-	-	-	-	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	♂ 7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	♂ 8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

W - SWISS CONTROLS 10⁻¹

	1	2	3	4	5
1	-	-	D		
2	-	-	D		
3	-	-	PP	D	
4	-	-	CNS	D	
5	-	-	CNS	D	
6	-	-	CNS	CNS	D
7	-	-	CNS	CNS	D
8	-	-	2 CNS	CNS	D
9	-	-	-	CNS	D
10	-	-	-	CNS	D

P.R.I CONTROLS 10⁻¹

	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
1	-	-	-	-	-	?	-	2 CNS	2 CNS	2 CNS	2 CNS	2 CNS	2	2 CNS	2 CNS	2 CNS	2	2 CNS	2	2 CNS	2 CNS	2 CNS	2 CNS	2 CNS	2	2 CNS	2 CNS	2 CNS
2	-	-	-	-	-	-	2	2 CNS	2 CNS	2	2	-	-	-	-	-	-	-	-	2	2	2	2	2	-	2	-	-
3	-	-	-	-	-	-	-	?	?	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Reaction of PRI Mice of Known Parentage to French Neurotropic Yellow Fever Virus

Purpose — This test was set up in the hope of finding offspring both of whose parents are susceptible to the virus — to find out whether 100% of such offspring would there succumb.

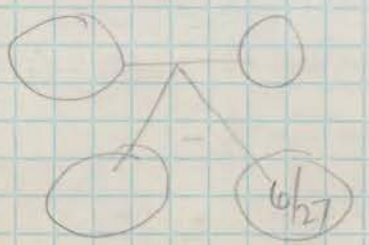
Breeding of Mice — Individual males & females were bred and their letters preserved and marked — all were tested simultaneously. The parents had holes punched in their ears for identification

Virus — Passage of French Neurotropic — 0.03cc of 10^{-4} dil.

Parents and offspring inoculated simultaneously.

		D	CNS	
One parent died —	No. 31	0/4	1/4	One susc. = aa
	" 81	4/12	6/27	aa + AA = all resist
	" 82	4/15	6/15	aa + Aa = Aa + aa = 50% susc.
		8/31	13/31	8/27 = 30%

Both parents survived —	No. 13	3/11	4 families all resistant could be Aa + AA or AA + AA
	" 17	0/4	
	" 23	0/15	
	" 36	1/8	
	" 86	0/5	3 families with 6/27 or 22.2% could be: Aa + Aa = AA + 2Aa + aa or 25% suscept.
	" 88	2/8	
	" 90	0/3	
		6/54	



FRENCH NEUROTROPIC YELLOW FEVER IN PRI FAMILIES

DEC 5 1951

LITTER # & DATE	VIRUS	No	SEX	DAYS AFTER INOCULATION 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	MORTALITY
LITTER #13			M	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
			F	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1ST LITTER OF 8/13/51	10^{-1}	1	♀	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
		2	♀	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
		3	♂	-	-	-	-	-	-	-	wP	wP	wP	wP	wP	wP	wP	wP	wP	wP	wP	wP	wP	wP	
		4	♂	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
		5	♂	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
LITTER #13		1	♀	-	-	-	-	-	-	dd	wP	D													
		2	♀	-	-	-	-	-	-	-	P	P	P	P	P	w	w	D	P	P	P	w		P	
		3	♀	-	-	-	-	-	-	-	-	ww	ww	ww	ww	ww	ww	ww	ww	ww	ww	ww	ww	ww	
2ND LITTER OF 9/13/51	10^{-1}	4	♂	-	-	-	-	-	-	CNS^2	D														
		5	♂	-	-	-	-	-	-	ww	D														
		6	♂	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
LITTER #17			M	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
			F	-	-	-	-	-	-	?	-	-	-	2	ww	ww	ww	P	P	P	P	P	P		PP	
ONLY LITTER OF 9/13/51	10^{-1}	1	♀	-	-	-	-	-	-	ww	P	P	P	P	P	P	w	P	w	P	P	P	P	P	
		2	♀	-	-	-	-	-	-	-	ww	ww	ww	ww	ww	ww	ww	ww	ww	w	w	w		w	
		3	♂	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
		4	♂	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
LITTER #23			M	-	-	-	-	-	-	w	w	w	?	w	w	ww	ww	ww	w	ww	ww	ww	[redacted]		ww	
			F	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	
1ST LITTER OF 8/24/51	10^{-1}	1	♀	-	-	-	-	-	-	-	CNS^2	CNS^2	?	?	?	?	?	-	-	-	-				-	
		2	♀	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				-	
		3	♀	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				-	
		4	♀	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				-	
		5	♂	-	-	-	-	-	-	?	-	-	-	-	?	?	CNS^2	CNS^2	CNS^2	$CNS^?$	-				-	
		6	♂	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				-	
		7	♂	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				-	
		8	♂	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				-	
		9	♂	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				-	
		10	♂	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				-	
		11	♂	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				-	
LITTER #23		1	♀	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ww	ww		ww	
		2	♀	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	w	w		w	
2ND LITTER OF 10/8/51	10^{-1}	3	♂	-	-	-	-	-	-	-	ww	ww	ww	ww	ww	ww	ww	ww	ww	ww	ww	ww	ww		ww	
		4	♂	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	
LITTER #31			M	-	-	-	-	-	CNS^2	CNS^2	D															
			F	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	
ONLY LITTER OF 9/22/51	10^{-1}	1	♀	-	-	-	-	-	-	-	-	-	-	?	?	-	-	-	-	-	-	-		-	
		2	♀	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	
		3	♂	-	-	-	-	-	-	ww	P	P	P	P	P	w	w	w	P	w	P	w	PW		PP	
		4	♂	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	

FRENCH NEUROTROPIC YELLOW FEVER IN PRI FAMILIES

DEC 5 1951

LITTER # & DATE	VIRUS	No	SEX	DAYS AFTER INOCULATION 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21	MORTALITY
LITTER #36			M	- -	
			F	- -	
1ST LITTER OF 8/20/51	10^{-1}	1	♀	- - - - - - CNS^2 WWWW CNS^2 CNS^2 PP PP PP PPPP PP PP	PP
		2	♀	- -	
		3	♂	- -	
		4	♂	- -	
LITTER #36		1	♀	- - - - - - - WP WP WP WP WP WP WP WP WP WP WP WP WP	WP
		2	♀	- - - - - - - - - W W W W W W W P W	CIR R→
2ND LITTER OF 9/20/51	10^{-1}	3	♂	- - - - - WW PW D	
		4	♂	- - - - - ? ? - ? - - - - - - - - - -	-
LITTER #81			M	- -	
			F	- - - - - CNS^2 D	
1ST LITTER OF 8/12/51	10^{-1}	1	♀	- - - - - - - W W 2 - - - - - - - - -	WW
		2	♀	- -	
		3	♂	- -	
		4	♂	- - - - - D	
LITTER #81		1	♂	- - - - - CNS^2 CNS^2 D	
		2	♂	- - - - - CNS^2 ? CNS^2 CNS^2 CNS^2 CNS^2 ? CNS^2 ? ? ? ? ? ?	-
		3	♂	- - - - - - PP D	
	10^{-1}	4	♂	- - - - - - PP PP D	
2ND LITTER OF 9/13/51		5	♂	- - - - - - - PW PW PW PW WW W W W W W W W WW	W
		6	♂	- - - - - - CNS^2 ? - - - ? ? - - - - -	-
		7	♂	- - - - - - - - - - - - - - - - - - - -	-
		8	♂	- - - - - - - - - - - - - - - - - - - -	-
LITTER #82			M	- - - - - WW WW WW D	
			F	- -	-
1ST LITTER OF 8/13/51	10^{-1}	1	♀	- -	-
		2	♂	- - - - - CNS^2 WP CNS^2 D	
		3	♂	- - - - - ? CNS^2 D	
		4	♂	- - - - - - WW PP D	
		5	♂	- - - - - - - PP PP PP PP PP PP WP WP PP PP PP PP PP	PP
		6	♂	- -	-
		7	♂	- -	-
		8	♂	- -	-
		9	♂	- -	-
LITTER #82		1	♂	- - - - - - P PP PP PP PP PP PP D	
		2	♂	- - - - - - WW WW WP WP WP WW WW WW WW P P P PP	WP
		3	♂	- - - - - - ? - - - - - - - - - - - -	-
2ND LITTER OF 9/18/51	10^{-1}	4	♂	- -	-
		5	♂	- -	-
		6	♂	- -	-

* Arthritis

FRENCH NEUROTROPIC YELLOW FEVER IN PRI FAMILIES

DEC 5 1951

LITTER # & DATER	VIRUS	No	SEX	DAYS AFTER INOCULATION 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	MORTALITY
LITTER #86		M		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
		F		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
ONLY LITTER OF 10/8/51	10^{-1}	1	♀	-	-	-	-	-	-	ww	Pw	Pw	Pw	Pw	Pw	Pw	Pw	Pw	Pw	Pw	Pw	Pw	Pw	Pw	
		2	♀	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ww	ww	ww	
		3	♂	-	-	-	-	-	-	-	P	P	P	P	P	P	P	P	P	P	P	P	P	Pw	
		4	♂	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	w	w	w	
		5	♂	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
LITTER #88		M		-	-	-	-	-	-	-	?	-	-	-	-	-	-	-	-	-	-	-	-	-	
		F		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
ONLY LITTER OF 9/14/51	10^{-1}	1	♀	-	-	-	-	-	$?^{2}$ CNS	CNS	D														
		2	♀	-	-	-	-	-	$?^{2}$	CNS	$?^{2}$ CNS	$?^{2}$ CNS	?	-	-	?	?	?	?	?	?	?	-	-	-	
		3	♀	-	-	-	-	-	-	-	P	P	P	P	P	D									
		4	♀	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ww	ww	
		5	♀	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
		6	♀	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
		7	♂	-	-	-	-	-	-	-	?	-	-	-	W	W	W	W	W	W	W	W	W	W	
		8	♂	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
LITTER #90		M		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
		F		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
ONLY LITTER OF 10/1/51	10^{-1}	1	♀	-	-	-	-	-	-	-	?	-	-	-	-	-	-	?	?	?	?	-	-	-	
		2	♀	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
		3	♂	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
CONTROL		1		-	?	S	D																		
		2		-	-	?	D																		
		3		-	-	-	D																		
		4		-	-	-	D																		
	10^{-1}	5		-	-	-	Pt	D																	
	10	6		-	-	-	Pt	D																	
10 MAX-FIELD MILE		7		-	-	-	CNS	D																	
		8		-	-	-	CNS	Pt	D																
		9		-	-	-	$?^{2}$ CNS	CNS	D																
		10		D																					

Resistant PR1 Male – French Neurotropic

PR1 Mother	Offspring	♀	PR1 Control
1 ○	♀,♀,♀,♂,♂,♂,♂,♂	2/8	0/10
○		0/5	1/10
○	♀♀♀,♂♂♂	0/6	"
○	♀♀♀♀♀,♂,♂,♂	2/8	
○	♀,♀,♀,♂♂♂♂	2/7	
○	♀♀	0/2	
○	♀,♂,♂	1/3	2/10
○	♀,♀,♀♀,♂,♂,♂	2/7	
○	♀♀♀♀♀,♂,♂	5/7	
○	♀♀♀♀,♂	0/5	
10		24% 14/58	3/30
D9	♀(8,8,10), ♂(8,0,0)	4/6	
D8	♀(10,14,,0) ♂(0/5)	2/8	2/10
D9	♂(9,0,0,0)	1/4	
		38.9% 7/18	

PRI controls — Swiss

9/13/51 — 9/10 — 10/10

If resistance to French were recessive then the genetic formula for all resistants would be aa and crossing resistants should yield all resistant which did not happen

~~Let A~~ = cell damage susc – dom.
a = " " resist – recess.

Resist = aa
Susc. = Aa
" = AA

If resistance is dominant then formula can be AA or Aa + crossing resistants should yield a certain proportion of susceptibles, but less than random breeding

If resistant ♀ = aa
" ♂ = aa
} F1 = aa all resist

Let A = gene for cell dam resist = dom
a = " " susc = recess.

Aa + Aa = AA + aa + 2Aa

then resist = AA or Aa
Susapt = aa

If resist ♀ is AA
+ resist ♂ " AA
} then all are resist

If resist ♀ is Aa
" ♂ is AA
} then AA + Aa – all resist

If resist ♀ is Aa
" ♂ is Aa
} then AA + Aa + aa → 25% susc

Resistant PRI Male +

Swiss Mother	Offspring ♀	Offspring ♂	Total	Notes
4	0/2	0/3	0/5	
4	3/3 (5,6,6)	3/3 (7,7,9)	6/6	
4	0/2	1/3 (7)	1/5	
5	3/4 (8,8,11)	2/3 (10,13)	5/7	
5	1/2 (8)	1/3 (9)	2/5	
5	1/6 (7)	2/2 (7,8)	3/8	
Miss.	4/4 (4,5,5,5)	3/3 (4,4,5)	7/7	?
5	2/6 (9,26)	0/2	2/8	
5	0/3	0/3	0/6	
9 mothers	14/32	12/25	26/57	(45.6%)

aa. Assume — Most or all swiss are recessive for cold damage

Susc ♀ = aa
Resist ♂ = Aa
} Aa + aa = 50% susc

Susc ♀ = aa
+
Resis ♂ + AA
} Aa + Aa - all resist

Aa + aa

Random PRI population may be expected to have aa, Aa and AA

aa = Susc.

			Susc.	Resist
25% are	aa	+ aa =	10	0
50% are	Aa	+ aa =	5	5
	Aa	+ aa =	5	5
25% are	AA	+ aa =	0	10
			20	20 = 20/40

10 / 30 = 33.3

Random bred PRI - 3/30 = 10%

Resist ♀ PRI × Resist ♂ PRI = 14/58 = 24%

Suscept ♀ PRI × Resist ♂ PRI = 7/18 = 38.9%

} not signif

Swiss ♀ × " " = 26/57 = 45.6%

Aa

If majority of PRI are heterozygous as regards cell vulnerability + A = gene for resist then gen. const. would be Aa

Aa × Aa = AA + Aa + Aa + aa or only 25% suscept.

AA

If Swiss are homozygous for vulnerability, i.e aa

Relative Susceptibility of PRI + F_1 (Swiss × PRI)

French Neurotropic Virus using 10^{-1}

Group	Observed: Died	Survived	Total	Expected: D	S
PRI	29 (24%)	92	121	52	69
F_1	59 (70%)	25	84	36	48
	88 (43%)	117	205		

$$\chi^2 = \frac{\left[(92\times59)-(29\times25)\right]^2 \times 205}{121\times84\times88\times117} = \frac{\log 9.65649}{\log 8.01974} = 1.63675$$

$\log 2.31175$

$\chi^2 = 44$

$P = <$

92 × 59 = 5428 + 460 + 725 = 4,703

29 × 25 = 145 + 58 = 725

4,7 × 4.7 = 329 + 188 = 22,090,000

$= 3.67237 + 3.67237 + 7.34474 = 22,120,000$

$2.31175 + 9.65649$

$2.08279 + 1.92428 + 1.94448 + 2.06819 = 8.01974$

PRI 14/40, 4/20, 8/31, 3/30 = 29/121 (24%)

F_1 30/35, 29/49 = 59/84 (70%)

PRI Mice

	D	S	Total
R♀ × R♂	14	44	58
S♀ × R♂	7	11	18
	21	55	76

$$\frac{\left[(44\times7)-(14\times11)\right]^2\times76}{58\times18\times21\times55} = \frac{\log 6.25585}{\log 6.08128} \quad \log 0.17457$$

$X^2 = 1.5$

44 × 7 = 308, 154, 154

14 × 11 = 14, 14, 154

1.76343
1.25527
1.32222
1.74036
6.08128

2.18752
2.18752
1.88081
6.25585

(A) PRI Resist ♂ × PRI Resist ♀

vs

(B) PRI " " × Swiss ♀

	D	S	Total
A	14	44	58
B	26	31	57
	40	75	115

$$\frac{\left[(44\times26)-(31\times14)\right]^2\times115}{58\times57\times40\times75} \quad \log 7.76322 - \log 6.99642$$

$\log .76680$

$X^2 = 5.981$

4-5-52

Breeding Experiments for Resistance to French Neurotropic Yellow Fever Virus

These data include test of Dec 5, 1951

I. PRI × PRI – both parents resistant – 20/112 = 18%

9 litters – all mice well – 0/45

9 litters – mixed – 20/67 = 30%

If one assumes that a single factor determines cell vulnerability and that the gene for high vulnerability is recessive (r) and for low vulnerability dominant (R), then a resistant mouse may have the genetic formula of either RR or Rr and the results of the possible matings should be as follows:

Rr + Rr = RR + 2(Rr) + rr = 25/50% should be susceptible

RR + Rr = RR + Rr = all should be resistant

RR + RR = RR + RR = all should be resistant

Since ~~only~~ 30 per cent of the mixed litters were susceptible, the data are ~~not~~ in accord with the hypothesis that a single factor determines cell vulnerability

II Resistant PRI × Susceptible PRI = 15/49 = 31%

Possible matings:

Rr + rr = Rr + rr = 50% susceptible

RR + rr = Rr + Rr = all should be resistant

Actually – 1 litter – all resistant – 0/4

7 litters – mixed – 15/45 = 33.3%

III Resistant PRI × Swiss ♀ = 26/57 = 46%

Rr + rr = 50% suscept

RR + rr = all resistant

2 litters – all resistant – 0/11

7 litters – mixed = 26/46 = 56.5%

(over)

Statistical Significance of Differences

	D	S	Total
Res. PRI x PRI resist	20	92	112
Res. PRI x Swiss	26	31	57
	46	123	169

$$\chi^2 = \frac{[(92 \times 26) - (31 \times 20)]^2 \times 169}{112 \times 57 \times 46 \times 123} = \frac{\log 8.72433}{\log 7.55776} = \log 1.16657 = 14.7$$

(2392 − 620 = 1772)

3.24822	2.04922
3.24822	2.08991
2.22789	1.75587
8.72433	1.66276
	7.55776

$\sqrt{14.7} = 3.8$

$P = 0.000145$

	D	S	Total
Res. PRI x PRI resist.	20	92	112
Sus: " x " "	15	34	49
	35	126	161

$$\chi^2 = \frac{[(92 \times 15) - (34 \times 20)]^2 \times 161}{112 \times 49 \times 35 \times 126} = \frac{\log 7.89703}{\log 7.39386} = \frac{}{.50317} = 3.19$$

(1380 − 680 = 700)

2.84510	2.04922
2.84510	2.10037
2.20683	1.69020
7.89703	1.54407
	7.39386

$P = 0.07$

not significant

Assuming recessive single factor for cell vulnerability and Swiss mice as "rr" then ~~add~~ mating with random PRI (should with 24% susc.) yield:

120 rr + rr = all susceptible – 24% of progeny

rr + Rr = mixed progeny – 50% susceptible – 50% Resist

rr + RR = all resistant ~~or 76%~~ – 38% suscept

~~Excluding~~ PRI mice of "RR" constitution – one would expect 62% ~~24%~~ of progeny to be susceptible. If the number of "RR" mice is small – the 70% observed incidence is a fairly close fit

Significance of Backcross Mortality

	Died	S	Total
Unselected PRI	29	92	121
Backcross	12	8	20
	41	100	141

$$\chi^2 = \frac{[(92 \times 12) - (29 \times 8)]^2 \times 141}{121 \times 20 \times 41 \times 100}$$

$\chi^2 = 10.8$

$\sqrt{\chi^2} = 3.29$

$P = 0.001$

92 × 12 = 184 + 92 = 1104 + 232 = 872

29 × 8 = 232

2420 × 4100

2.94052
2.94052
2.14922
8.83026
6.99660
1.03366

.51683

3.38382
3.61278
6.99660

90 (31
62 29
280
279