

Table S1. Viability of Mutant Mice Generated in this Study, Related to Figures 1 and 6

Offspring of *Cyrano* 2A9^{+/-} x *Cyrano* 2A9^{+/-} Cross

	<i>Cyrano</i> 2A9 ^{+/+}	<i>Cyrano</i> 2A9 ^{+/-}	<i>Cyrano</i> 2A9 ^{-/-}
Observed (P21)	81	154	76
% observed	26	50	24
% expected	25	50	25

Shown are results of crossing heterozygous mice on a SV129; C57Bl/6J background derived from targeted ESC clone 2A9. Statistical significance was determined by χ^2 test ($p = 0.91$).

Offspring of *Cyrano* 1F1^{+/-} x *Cyrano* 1F1^{+/-} Cross

	<i>Cyrano</i> 1F1 ^{+/+}	<i>Cyrano</i> 1F1 ^{+/-}	<i>Cyrano</i> 1F1 ^{-/-}
Observed (P21)	24	55	26
% observed	23	52	25
% expected	25	50	25

Shown are results of crossing heterozygous mice on a SV129; C57Bl/6J background derived from targeted ESC clone 1F1. Statistical significance was determined by χ^2 test ($p = 0.85$).

Offspring of *Mir7a1*^{+/-}; *Mir7b*^{+/-} x *Mir7a1*^{+/-}; *Mir7b*^{+/-} Cross

	<i>Mir7a1</i> ^{+/+}			<i>Mir7a1</i> ^{+/-}			<i>Mir7a1</i> ^{-/-}		
	<i>Mir7b</i> ^{+/+}	<i>Mir7b</i> ^{+/-}	<i>Mir7b</i> ^{-/-}	<i>Mir7b</i> ^{+/+}	<i>Mir7b</i> ^{+/-}	<i>Mir7b</i> ^{-/-}	<i>Mir7b</i> ^{+/+}	<i>Mir7b</i> ^{+/-}	<i>Mir7b</i> ^{-/-}
Observed (P21)	9	13	8	17	33	19	5	18	8
% observed	7	10	6	13	25	15	4	14	6
% expected	6	12.5	6	12.5	25	12.5	6	12.5	6

Shown are results of crossing double heterozygous mice on a C57Bl/6J background. Statistical significance was determined by χ^2 test ($p = 0.95$).

Male Offspring of *Cyrano*^{+/-}; *Cdr1as*^{671_18/y} x *Cyrano*^{+/-}; *Cdr1as*^{+671_18} Cross

	<i>Cdr1as</i> ^{+y}			<i>Cdr1as</i> ^{671_18/y}		
	<i>Cyrano</i> ^{+/+}	<i>Cyrano</i> ^{+/-}	<i>Cyrano</i> ^{-/-}	<i>Cyrano</i> ^{+/+}	<i>Cyrano</i> ^{+/-}	<i>Cyrano</i> ^{-/-}
Observed (P21)	14	31	10	11	29	14
% observed	13	28	9	10	27	13
% expected	12.5	25	12.5	12.5	25	12.5

Shown are results of crossing double mutant mice on a C57Bl/6J background. Statistical significance was determined by χ^2 test ($p = 0.83$).

Female Offspring of *Cyrano*^{+/-}; *Cdr1as*^{671_18/y} x *Cyrano*^{+/-}; *Cdr1as*^{+671_18} Cross

	<i>Cdr1as</i> ^{+671_18}			<i>Cdr1as</i> ^{671_18/671_18}		
	<i>Cyrano</i> ^{+/+}	<i>Cyrano</i> ^{+/-}	<i>Cyrano</i> ^{-/-}	<i>Cyrano</i> ^{+/+}	<i>Cyrano</i> ^{+/-}	<i>Cyrano</i> ^{-/-}

Observed (P21)	17	24	15	15	23	9
% observed	17	23	15	15	22	9
% expected	12.5	25	12.5	12.5	25	12.5

Shown are results of crossing double mutant mice on a C57Bl/6J background. Statistical significance was determined by χ^2 test ($p = 0.61$).

Male Offspring of *Cyrano*^{+/-}; *Cdr1as*^{671_54/y} x *Cyrano*^{+/-}; *Cdr1as*^{+/671_54} Cross

	<i>Cdr1as</i> ^{+/y}			<i>Cdr1as</i> ^{671_54/y}		
	<i>Cyrano</i> ^{+/+}	<i>Cyrano</i> ^{+/-}	<i>Cyrano</i> ^{-/-}	<i>Cyrano</i> ^{+/+}	<i>Cyrano</i> ^{+/-}	<i>Cyrano</i> ^{-/-}
Observed (P21)	12	18	9	6	19	9
% observed	16	25	12	8	26	12
% expected	12.5	25	12.5	12.5	25	12.5

Shown are results of crossing double mutant mice on a C57Bl/6J background. Statistical significance was determined by χ^2 test ($p = 0.85$).

Female Offspring of *Cyrano*^{+/-}; *Cdr1as*^{671_54/y} x *Cyrano*^{+/-}; *Cdr1as*^{+/671_54} Cross

	<i>Cdr1as</i> ^{+/671_54}			<i>Cdr1as</i> ^{671_54/671_54}		
	<i>Cyrano</i> ^{+/+}	<i>Cyrano</i> ^{+/-}	<i>Cyrano</i> ^{-/-}	<i>Cyrano</i> ^{+/+}	<i>Cyrano</i> ^{+/-}	<i>Cyrano</i> ^{-/-}
Observed (P21)	4	19	4	11	16	6
% observed	7	32	7	18	27	10
% expected	12.5	25	12.5	12.5	25	12.5

Shown are results of crossing double mutant mice on a C57Bl/6J background. Statistical significance was determined by χ^2 test ($p = 0.28$).